

STIC Search Report

EIC 1700

STIC Database Tracking Number: 119131

TO: Kelechi Egwim
Location: REM 10A25
Art Unit : 1713
April 15, 2004

Case Serial Number: 09/827584

From: Barba Koroma
Location: EIC 1700
REM EO4 A30
Phone: 571 272 2546

barba.koroma@uspto.gov

Search Notes

Examiner Egwim,

Please find attached results of the search you requested. Various components of the claimed invention as spelt out in the claims were searched in REGISTRY and CAPLUS databases. For your convenience, titles of hits have been listed to help you peruse the results set quickly. This is followed by a detailed printout of records. Please let me know if you have any questions.

Thanks.

=> file reg

FILE 'REGISTRY' ENTERED AT 10:31:12 ON 15 APR 2004

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STRUCTURE FILE UPDATES: 13 APR 2004 HIGHEST RN 675103-21-6

DICTIONARY FILE UPDATES: 13 APR 2004 HIGHEST RN 675103-21-6

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file caplus

FILE 'CAPLUS' ENTERED AT 10:31:17 ON 15 APR 2004

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FILE COVERS 1907 - 15 Apr 2004 VOL 140 ISS 16

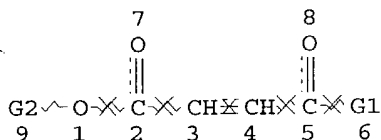
FILE LAST UPDATED: 14 Apr 2004 (20040414/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que 159

L51 SCR 2043

L52 STR



VAR G1=O/N

VAR G2=H/M/N

NODE ATTRIBUTES:

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NSPEC IS RC AT 2

NSPEC IS RC AT 5

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

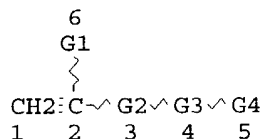
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

L53 STR



VAR G1=H/AK

VAR G2=O/C

VAR G3=O/C

VAR G4=O/C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L54 (6321)SEA FILE=REGISTRY SSS FUL L52 AND L53 AND L51

L55 (5509)SEA FILE=CAPLUS ABB=ON PLU=ON L54

L56 535 SEA FILE=CAPLUS ABB=ON PLU=ON L55 AND PIGMENT?

L57 122 SEA FILE=CAPLUS ABB=ON PLU=ON L56 AND AQUEOUS

L59 46 SEA FILE=CAPLUS ABB=ON PLU=ON L57 AND MALEIC?

=> d ti 1-46 l59

L59 ANSWER 1 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI **Aqueous** jet-printing inks with good storage stability and discharge stability

- L59 ANSWER 2 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Water-thinned **pigment** dispersions, their ink compositions, and method for jet-printing
- L59 ANSWER 3 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Aqueous** ink compositions with metallic glittering
- L59 ANSWER 4 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Corrosion inhibition of aluminium and zinc **pigments** by copolymers
- L59 ANSWER 5 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Corrosion inhibition of aluminium and zinc **pigments** by copolymers
- L59 ANSWER 6 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Copolymers as corrosion inhibitors for different metal **pigments**
- L59 ANSWER 7 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Rubber-erasable **aqueous** ink composition for writing material and writing materials using inks
- L59 ANSWER 8 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Carboxy-terminated methacrylate block copolymers and their use as dispersants for the production of **aqueous pigment** pastes
- L59 ANSWER 9 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Corrosion inhibition of copper and brass **pigments** in **aqueous** alkaline media by copolymers
- L59 ANSWER 10 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Optical transparent green resin compositions containing dispersed **pigments**, photosensitive green resin compositions, photosensitive solutions for green image formation, and manufacturing method of colored images and color filters
- L59 ANSWER 11 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Pigment** dispersing agents for paper coatings
- L59 ANSWER 12 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Powder compositions containing core-shell vinyl polymers and coatings from them with good adhesion to substrates
- L59 ANSWER 13 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Aqueous** colored base automobile coating composition with good strength, water and chipping resistance
- L59 ANSWER 14 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Aqueous** dispersions of fluorescent **pigments** and manufacture of the dispersions
- L59 ANSWER 15 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Water-thinned ink compositions containing **pigments**,

styrene-acrylic resin emulsions, and water-soluble alkali-soluble acrylic resin varnishes for paper

L59 ANSWER 16 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Water-based inks containing allyl ether polymers

L59 ANSWER 17 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Manufacture of coated paper with good printability and gloss

L59 ANSWER 18 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Manufacture of fine resin particles fixed with water-insoluble chemicals

L59 ANSWER 19 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Colored microsphere-containing dispersion compositions

L59 ANSWER 20 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Micro composite systems and their preparation

L59 ANSWER 21 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Water-thinned inks for ball point pens

L59 ANSWER 22 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Water-based **pigmented** ink compositions for writing

L59 ANSWER 23 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Increasing encapsulation efficiency in coating of particles in **aqueous** dispersions

L59 ANSWER 24 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Unsaturated acid-based polymer dispersants for **pigments** and their paper coatings

L59 ANSWER 25 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI **Pigment** dispersants for paper coatings

L59 ANSWER 26 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Dispersion of inorganic **pigments** such as calcium carbonate and aluminum hydroxide in water by use of mixed polymer dispersants

L59 ANSWER 27 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Paper coating compositions containing coatability improvers

L59 ANSWER 28 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Oligomeric dispersants for water-based **pigments**

L59 ANSWER 29 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Calcium carbonate fillers

L59 ANSWER 30 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI **Maleic** acid salt copolymers

L59 ANSWER 31 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

TI Dispersibility of **pigments** in **aqueous** solutions of anionic oligosoaps. Synthesis of anionic oligosoaps having the carboxylic-hydroxyethylamide groups and their properties

L59 ANSWER 32 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Primers for metal leaf

L59 ANSWER 33 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Single exposure positive contact litho film

L59 ANSWER 34 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Comb copolymers with polyoxyalkylene and carboxylate salt side chains

L59 ANSWER 35 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Dispersing agents for **pigments** in water

L59 ANSWER 36 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Highly concentrated fluid inorganic **pigment** compositions and their use

L59 ANSWER 37 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Jet-printing inks

L59 ANSWER 38 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Jet-printing inks

L59 ANSWER 39 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Dispersant for paper coating **pigment**

L59 ANSWER 40 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Electrostatographic liquid developers

L59 ANSWER 41 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Magnetic tape

L59 ANSWER 42 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Polymerizable organic dispersions

L59 ANSWER 43 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Compositions for **aqueous** dispersion paints

L59 ANSWER 44 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Heat-hardenable liquid vehicle for coatings

L59 ANSWER 45 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Thermosettable coating vehicles and coating compositions

L59 ANSWER 46 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
TI Coating compositions from polycarboxylic polymers and a polyepoxide-alkanolamine adduct

=> d ibib abs hitstr ind total 159

L59 ANSWER 1 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:249783 CAPLUS
TITLE: **Aqueous** jet-printing inks with good storage stability and discharge stability

INVENTOR(S): Omura, Taro
 PATENT ASSIGNEE(S): Sony Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004091656	A2	20040325	JP 2002-255283	20020830
PRIORITY APPLN. INFO.:			JP 2002-255283	20020830

AB The inks comprise (A) **pigments**, (B) water-soluble resins containing modified styrene resins having (CH₂CHC₆H₄SO₃X)_q units (X = H, Na, K, ammonium salt; q > 0), (C) water-soluble organic solvents, and (D) water. Thus, a jet ink containing 30 mol%-sulfonated polystyrene Na salt showed D50/D90 0.07 and 0.19 μm, initially and after 4-wk aging at 70°, resp., and discharge speed from printer head 12.5 and 10.5 m/s, initially and after 20-min printing, resp.

IT **85884-66-8D**, Butyl acrylate-**maleic** acid-styrene copolymer, sulfonated, sodium salt
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (dispersants; **aqueous** jet-printing inks containing sulfonated styrene resins as dispersants for good storage stability and discharge stability)

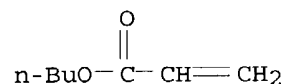
RN 85884-66-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with butyl 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 141-32-2

CMF C7 H12 O2

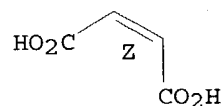


CM 2

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8

$\text{H}_2\text{C}=\text{CH}-\text{Ph}$

IC ICM C09D011-00
ICS B41J002-01
CC 42-12 (Coatings, Inks, and Related Products)
ST **aq** jet printing ink storage discharge stability dispersant;
sulfonated polystyrene sodium salt dispersant water thinned jet ink;
storage stable **pigment** jet ink sulfonated styrene resin
dispersant
IT Dispersing agents
(**aqueous** jet-printing inks containing sulfonated styrene resins as
dispersants for good storage stability and discharge stability)
IT Inks
(jet-printing, anticlogging, storage-stable; **aqueous** jet-printing
inks containing sulfonated styrene resins as dispersants for good storage
stability and discharge stability)
IT Inks
(jet-printing, water-thinned; **aqueous** jet-printing inks containing
sulfonated styrene resins as dispersants for good storage stability and
discharge stability)
IT 9003-53-6D, Polystyrene, sulfonated (, sodium salt) 25036-19-5D, Methyl
acrylate-styrene copolymer, sulfonated, sodium salt 25586-23-6D, Acrylic
acid-methyl acrylate-styrene copolymer, sulfonated, sodium salt
27136-15-8D, Butyl acrylate-methyl methacrylate-styrene copolymer,
sulfonated, sodium salt **85884-66-8D**, Butyl acrylate-
maleic acid-styrene copolymer, sulfonated, sodium salt
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(dispersants; **aqueous** jet-printing inks containing sulfonated styrene
resins as dispersants for good storage stability and discharge
stability)

L59 ANSWER 2 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:146545 CAPLUS

DOCUMENT NUMBER: 138:189528

TITLE: Water-thinned **pigment** dispersions, their ink
compositions, and method for jet-printing

INVENTOR(S): Kazuki, Minoru

PATENT ASSIGNEE(S): Mikuni Color Works Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003055571	A2	20030226	JP 2001-245230	20010813
PRIORITY APPLN. INFO.:			JP 2001-245230	20010813

AB The **pigment** dispersions comprise **pigments**, dispersing agents containing copolymers ($T_g \geq 30^\circ$) of hydrophobic monomers and hydrophilic monomers, and **aqueous** media. Thus, a dispersion containing **Pigment** Yellow 14, Et methacrylate-methacrylic acid copolymer sodium salt (T_g 68°, acid value 75), ethylene glycol, and water was mixed with water-soluble organic solvents to give an ink composition with good storage stability and discharge stability.

IT **498557-97-4**, Ethyl acrylate-ethyl methacrylate-**maleic** acid copolymer diethanolamine salt
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (dispersing agent; water-thinned **pigment** dispersions for jet-printing ink compns. with good storage stability)

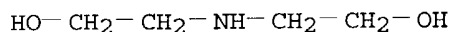
RN 498557-97-4 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethyl 2-methyl-2-propenoate and ethyl 2-propenoate, compd. with 2,2'-iminobis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 111-42-2

CMF C4 H11 N O2



CM 2

CRN 498557-96-3

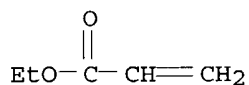
CMF (C6 H10 O2 . C5 H8 O2 . C4 H4 O4)x

CCI PMS

CM 3

CRN 140-88-5

CMF C5 H8 O2

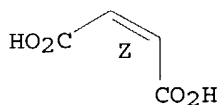


CM 4

CRN 110-16-7

CMF C4 H4 O4

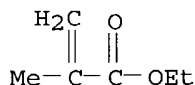
Double bond geometry as shown.



CM 5

CRN 97-63-2

CMF C6 H10 O2



IC ICM C09B067-46
ICS B01F017-34; B41J002-01; B41M005-00; C09B067-20; C09D011-00;
C09D017-00

CC 42-12 (Coatings, Inks, and Related Products)

ST water thinned **pigment** dispersion ink jet printing; dispersing
agent ethyl methacrylate methacrylic polymer sodium; storage stable
anticlogging ink acrylic polymer dispersion

IT Inks
(jet-printing, anticlogging, storage-stable; water-thinned
pigment dispersions for jet-printing ink compns. with good
storage stability)

IT Inks
(jet-printing, water-thinned; water-thinned **pigment**
dispersions for jet-printing ink compns. with good storage stability)

IT Dispersing agents
(water-thinned **pigment** dispersions for jet-printing ink
compns. with good storage stability)

IT 60017-52-9, Ethyl methacrylate-methacrylic acid copolymer sodium salt
80057-11-0, Acrylic acid-butyl methacrylate copolymer monoethanolamine
salt 498557-97-4, Ethyl acrylate-ethyl methacrylate-
maleic acid copolymer diethanolamine salt 498557-99-6, Glycidyl
methacrylate-isopropyl methacrylate-methacrylic acid copolymer
diethanolamine salt 498558-00-2, Ethyl methacrylate-lauryl
methacrylate-methacrylic acid copolymer diethanolamine salt
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(dispersing agent; water-thinned **pigment** dispersions for
jet-printing ink compns. with good storage stability)

L59 ANSWER 3 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:794007 CAPLUS

DOCUMENT NUMBER: 137:312504

TITLE: **Aqueous** ink compositions with metallic
glittering

INVENTOR(S): An, Tung-gul
 PATENT ASSIGNEE(S): Dang-A Pencil Co. Ltd., S. Korea
 SOURCE: U.S. Pat. Appl. Publ., 6 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002148387	A1	20021017	US 2001-879209	20010613
US 6544323	B2	20030408		

PRIORITY APPLN. INFO.: KR 2001-7088 A 20010213

AB Title composition having good glittering appearance, three-dimensional effect and writing aptitude comprises, a metal-coating resin component, colorant, a water-soluble resin, a water-soluble organic solvent and water. Thus, an ink composition comprising 7.0 parts metal-coating resin component with average granularity 0.5 μ m prepared by grinding Al-deposited poly(Me methacrylate) film, 0.3 parts K 7C233 Rhamsan resin, 1.0 parts Acid Yellow 73, glycerol 5.0, 0.1 parts Proxell GXL (1,2-benzothiazolin-3), 0.1 parts benzotriazole, 1.2 parts maleic monoamide and 85.3 parts water showed good glittering appearance, three-dimensional effect and writing performance.

IT 24980-59-4, Maleic acid-vinyl acetate copolymer
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (aqueous ink compns. with metallic glittering)

RN 24980-59-4 CAPLUS

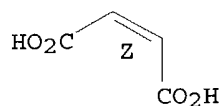
CN 2-Butenedioic acid (2Z)-, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 110-16-7

CMF C4 H4 O4

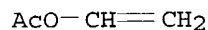
Double bond geometry as shown.



CM 2

CRN 108-05-4

CMF C4 H6 O2



IC ICM C09D011-02
ICS C09D011-04; C09D011-08; C09D011-14; C09D005-38

NCL 106031680

CC 42-12 (Coatings, Inks, and Related Products)

ST metallic glittering **aq** ink compn; polymethyl methacrylate
aluminum **aq** ink compn

IT Aminoplasts
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(alkyd resin-; **aqueous** ink compns. with metallic glittering)

IT Alkyd resins
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(aminoplast-; **aqueous** ink compns. with metallic glittering)

IT Pearlescent pigments
(**aqueous** ink compns. with metallic glittering)

IT Acrylic polymers, uses
Alkyd resins
Aminoplasts
Caseins, uses
Epoxy resins, uses
Gelatins, uses
Polyamides, uses
Polycarbonates, uses
Polyesters, uses
Polyurethanes, uses
Polyvinyl butyrals
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(**aqueous** ink compns. with metallic glittering)

IT Metals, uses
Oxides (inorganic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**aqueous** ink compns. with metallic glittering)

IT Rosin
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(malic acid resin modified; **aqueous** ink compns. with metallic glittering)

IT Inks
(water-thinned; **aqueous** ink compns. with metallic glittering)

IT 7429-90-5, Aluminum, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(WXMO 630; **aqueous** ink compns. with metallic glittering)

IT 518-47-8, Acid Yellow 73
RL: TEM (Technical or engineered material use); USES (Uses)
(Yellow 202(1); **aqueous** ink compns. with metallic glittering)

IT 56-81-5, Glycerol, uses 57-55-6, Propylene glycol, uses 127303-87-1, Dipropylene glycol monopropyl ether
RL: NUU (Other use, unclassified); USES (Uses)
(**aqueous** ink compns. with metallic glittering)

IT 79-10-7D, Acrylic acid, polymers 110-16-7D, Maleic acid, polymer, rosin-modified 9002-86-2, Poly(vinyl chloride) 9002-89-5, Polyvinyl alcohol 9003-08-1, Melamine resin 9003-22-9, Vinyl acetate-vinyl chloride copolymer 9004-35-7, Cellulose acetate

9004-57-3, Ethyl cellulose 9004-70-0, Nitrocellulose 9011-05-6, Urea resin 9011-14-7, PMMA 24980-59-4, **Maleic acid-vinyl acetate copolymer** 25036-13-9, Urea-melamine resin
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(**aqueous** ink compns. with metallic glittering)

IT 1312-43-2, Indium oxide 1332-29-2, Tin oxide 7440-02-0, Nickel, uses 7440-09-7, Potassium, uses 7440-22-4, Silver, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 7440-74-6, Indium, uses 11138-66-2, Kelzan 12597-68-1, Stainless steel, uses 13463-67-7, Titanium oxide, uses 73667-50-2, Succinoglycan 96949-21-2, K 7C233 96949-22-3, K 1C376 142661-60-7, Iriodin 302 142901-92-6, Rheozan 346600-72-4, Chugai Aminol First Pink R
 RL: TEM (Technical or engineered material use); USES (Uses)

(**aqueous** ink compns. with metallic glittering)

IT 100-42-5D, Styrene, polymers with acrylic monomers 161279-62-5, Joncryl 683

RL: TEM (Technical or engineered material use); USES (Uses)

(**pigment** dispersant; **aqueous** ink compns. with metallic glittering)

L59 ANSWER 4 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:119114 CAPLUS

DOCUMENT NUMBER: 135:154107

TITLE: Corrosion inhibition of aluminium and zinc **pigments** by copolymers

AUTHOR(S): Muller, Bodo; Schubert, Martin; Oughourlian, Claude

CORPORATE SOURCE: FHTE - University of Applied Sciences, Esslingen, Germany

SOURCE: Pigment & Resin Technology (2001), 30(1), 6-12

CODEN: PGRTBC; ISSN: 0369-9420

PUBLISHER: MCB University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Aluminum and zinc **pigments** corrode in **aqueous** alkaline paint media with the evolution of hydrogen. **Maleic acid-styrene-acrylic ester copolymers** were synthesized by copolymn. of **maleic acid anhydride**, styrene and different (meth)acrylic esters. Three acrylic esters (Et, Bu, n-hexyl) and two methacrylic esters (n-dodecyl, n-octadecyl) were used; the copolymers with long-chain acrylic esters are amphiphilic. Addnl., a com. (non-amphiphilic) styrene-**maleic acid copolymer** (SMA) with similar mol. mass and acid number was tested. The corrosion reaction of aluminum and zinc **pigments** in **aqueous** alkaline media can be inhibited by addition of these copolymers. But aluminum and zinc **pigments** react completely differently with the examined copolymers. With addition of the amphiphilic **maleic acid-styrene-acrylic ester copolymers** to aluminum **pigment** dispersions the evolved hydrogen vols. decrease with increasing chain-length of the acrylate monomer in the copolymers, while with zinc **pigment** the hydrogen vols. increase, which is just the opposite compared with aluminum. Furthermore, there exist math. correlations between the number of carbon atoms of the ester alc. of the acrylate monomer in the copolymers and the hydrogen vols. evolved.

IT 31605-22-8, Ethyl acrylate-**maleic acid-styrene copolymer**

85884-66-8, Butyl acrylate-**maleic acid-styrene copolymer**

219657-39-3, Octadecyl methacrylate-maleic acid-styrene
copolymer 255380-87-1, Hexyl acrylate-maleic
acid-styrene copolymer 302964-48-3, Dodecyl methacrylate-
maleic acid-styrene copolymer

RL: TEM (Technical or engineered material use); USES (Uses)
(inhibitor; copolymers for inhibition of corrosion of zinc and aluminum
pigments in aqueous alkaline paints)

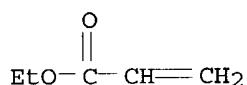
RN 31605-22-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and ethyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 140-88-5

CMF C5 H8 O2

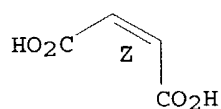


CM 2

CRN 110-16-7

CMF C4 H4 O4

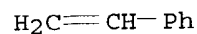
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



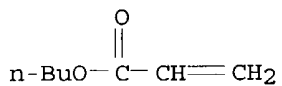
RN 85884-66-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with butyl 2-propenoate and
ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 141-32-2

CMF C7 H12 O2

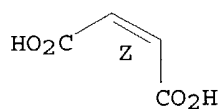


CM 2

CRN 110-16-7

CMF C4 H4 O4

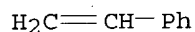
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



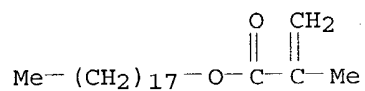
RN 219657-39-3 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and octadecyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 32360-05-7

CMF C22 H42 O2

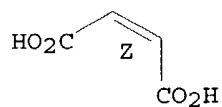


CM 2

CRN 110-16-7

CMF C4 H4 O4

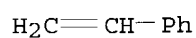
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



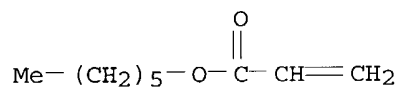
RN 255380-87-1 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and hexyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2499-95-8

CMF C9 H16 O2

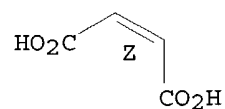


CM 2

CRN 110-16-7

CMF C4 H4 O4

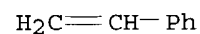
Double bond geometry as shown.



CM 3

CRN 100-42-5

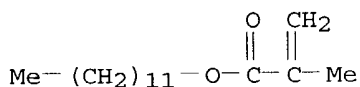
CMF C8 H8



RN 302964-48-3 CAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with dodecyl 2-methyl-2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

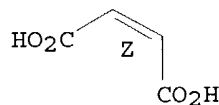
CRN 142-90-5
 CMF C16 H30 O2



CM 2

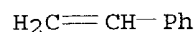
CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



CM 3

CRN 100-42-5
 CMF C8 H8



CC 42-6 (Coatings, Inks, and Related Products)
 ST copolymer inhibition corrosion zinc aluminum **pigment** paint
 IT Corrosion inhibitors
 Pigments, nonbiological
 (copolymers for inhibition of corrosion of zinc and aluminum
 pigments in aqueous alkaline paints)
 IT Paints
 (water-thinned; copolymers for inhibition of corrosion of zinc and
 aluminum **pigments in aqueous** alkaline paints)
 IT 7429-90-5, Aluminum, uses 7440-66-6, Zinc, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (copolymers for inhibition of corrosion of zinc and aluminum
 pigments in aqueous alkaline paints)
 IT 25300-64-5, **Maleic acid-styrene copolymer 31605-22-8**,
 Ethyl acrylate-**maleic acid-styrene copolymer 85884-66-8**

, Butyl acrylate-**maleic** acid-styrene copolymer
219657-39-3, Octadecyl methacrylate-**maleic** acid-styrene
copolymer 255380-87-1, Hexyl acrylate-**maleic**
acid-styrene copolymer 302964-48-3, Dodecyl methacrylate-
maleic acid-styrene copolymer

RL: TEM (Technical or engineered material use); USES (Uses)
(inhibitor; copolymers for inhibition of corrosion of zinc and aluminum
pigments in **aqueous** alkaline paints)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L59 ANSWER 5 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:744050 CAPLUS

DOCUMENT NUMBER: 134:20187

TITLE: Corrosion inhibition of aluminium and zinc
pigments by copolymers

AUTHOR(S): Muller, B.; Schubert, M.; Oughourlian, C.

CORPORATE SOURCE: Fachhochschule Esslingen - Hochschule fur Technik,
Chemieingenieurwesen/Farbe-Lack-Umwelt, Esslingen,
D-73728, Germany

SOURCE: Annali dell'Universita di Ferrara, Sezione 5: Chimica
Pura ed Applicata, Supplemento (2000), 11(9th European
Symposium on Corrosion Inhibitors, 2000, Vol. 1),
427-439

CODEN: AUFSAH; ISSN: 0365-785X

PUBLISHER: University of Ferrara

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Aluminum and zinc **pigments** corrode in **aqueous** alkaline paint
media with the evolution of hydrogen which can be measured gas
volumetrically. Maleic acid-styrene-acrylic ester copolymers
were synthesized by free-radical copolymn. of **maleic** acid
anhydride, styrene and different (meth)acrylic esters. Three acrylic
esters (Et, Bu, n-hexyl) and two methacrylic esters (n-dodecyl,
n-octadecyl) were used; the copolymers with long-chain acrylic esters are
amphiphilic. Addnl., a com. (non-amphiphilic) styrene-**maleic**
acid copolymer (SMA) with similar mol. mass and acid number was tested. The
corrosion reaction of aluminum and zinc **pigments** in **aq**
. alkaline media can be inhibited well by addition of these copolymers. But
aluminum and zinc **pigments** react completely different with the
examined copolymers. The corrosion inhibiting effect of the non-amphiphilic
SMA copolymer is worse for aluminum but better for zinc **pigment**
when compared to the amphiphilic copolymers. With addition of the
amphiphilic **maleic** acid-styrene-acrylic ester copolymers to
aluminum **pigment** dispersions the evolved hydrogen vols. decrease
with increasing chain-length of the acrylate monomer in the copolymers,
with zinc **pigment** the hydrogen vols. increase which is just the
opposite compared to aluminum. Furthermore, there exist math.
correlations between the number of carbon atoms of the ester alc. of the
acrylate monomer in the copolymers and the hydrogen vols. evolved.

IT 31605-22-8, Ethyl acrylate-**maleic** acid-styrene copolymer
85884-66-8, Butyl acrylate-**maleic** acid-styrene copolymer
255380-87-1, Hexyl acrylate-**maleic** acid-styrene
copolymer 255380-88-2, Dodecyl acrylate-**maleic**
acid-styrene copolymer 255380-89-3, Octadecyl acrylate-

maleic acid-styrene copolymer

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(corrosion inhibition of aluminum and zinc pigments by copolymers)

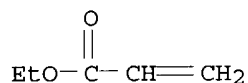
RN 31605-22-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 140-88-5

CMF C5 H8 O2

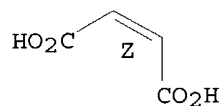


CM 2

CRN 110-16-7

CMF C4 H4 O4

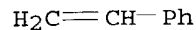
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



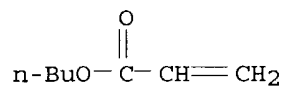
RN 85884-66-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with butyl 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 141-32-2

CMF C7 H12 O2

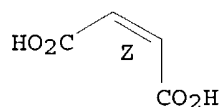


CM 2

CRN 110-16-7

CMF C4 H4 O4

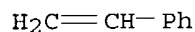
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



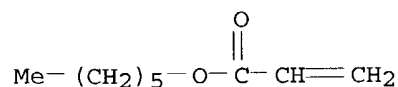
RN 255380-87-1 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and hexyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2499-95-8

CMF C9 H16 O2

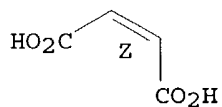


CM 2

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



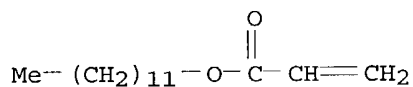
RN 255380-88-2 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with dodecyl 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 2156-97-0

CMF C15 H28 O2

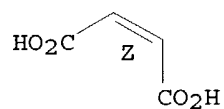


CM 2

CRN 110-16-7

CMF C4 H4 O4

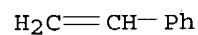
Double bond geometry as shown.



CM 3

CRN 100-42-5

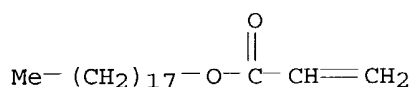
CMF C8 H8



RN 255380-89-3 CAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and octadecyl
 2-propenoate (9CI) (CA INDEX NAME)

CM 1

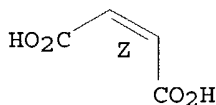
CRN 4813-57-4
 CMF C21 H40 O2



CM 2

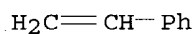
CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



CM 3

CRN 100-42-5
 CMF C8 H8



CC 56-10 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 42
 ST copolymer corrosion inhibitor aluminum zinc **pigment**
 IT Corrosion inhibitors
 (copolymers; corrosion inhibition of aluminum and zinc **pigments**
 by copolymers)
 IT **Pigments**, nonbiological
 (corrosion inhibition of aluminum and zinc **pigments** by
 copolymers)
 IT 7429-90-5, Aluminium, properties 7440-66-6, Zinc, properties
 31605-22-8, Ethyl acrylate-**maleic** acid-styrene copolymer
 85884-66-8, Butyl acrylate-**maleic** acid-styrene copolymer
 255380-87-1, Hexyl acrylate-**maleic** acid-styrene
 copolymer 255380-88-2, Dodecyl acrylate-**maleic**
 acid-styrene copolymer 255380-89-3, Octadecyl acrylate-

maleic acid-styrene copolymer

RL: PRP (Properties); TEM (Technical or engineered material use); USES
(Uses)

(corrosion inhibition of aluminum and zinc **pigments** by
copolymers)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L59 ANSWER 6 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:690536 CAPLUS

DOCUMENT NUMBER: 133:324465

TITLE: Copolymers as corrosion inhibitors for different metal
pigments

AUTHOR(S): Muller, B.; Schubert, M.; Oughourlian, C.

CORPORATE SOURCE: Fachhochschule Esslingen - Hochschule fur Technik,
Chemieingenieurwesen/Farbe-Lack-Umwelt, Esslingen,
D-73728, Germany

SOURCE: Materials and Corrosion (2000), 51(9), 642-647
CODEN: MTCREQ; ISSN: 0947-5117

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The base aluminum and zinc **pigments** corrode in **aqueous**
alkaline media with the evolution of hydrogen, whereas the more noble copper
and brass **pigments** react with the absorption of oxygen. Both
types of corrosion reactions can be examined measuring gas evolution. The
corrosion reactions of all examined metal **pigments** can be
inhibited more or less by the addition of styrene-**maleic**
acid-acrylate copolymers with different acrylate monomers (ethyl-,
n-butyl- and n-hexyl acrylate as well as n-dodecyl- and n-octadecyl
methacrylate). A surprising result is that the oxygen corrosion of the
brass **pigment** is inhibited more effectively by the copolymers
than the copper **pigment**. With respect to interaction of the
metals with the copolymers, there are two groups of metal **pigments**
. The first group is aluminum **pigment** only. The corrosion
inhibiting effect of the copolymers increases with increasing side chain
length of the acrylate monomer. The second group consists of the base
zinc **pigment** and more noble copper **pigment**. The
corrosion inhibiting effect of the copolymers decreases with increasing
side chain length of the acrylate monomer. These connections between the
chemical composition of the copolymers and their corrosion inhibiting effect

can

be correlated math. with the help of potential functions.

IT 31605-22-8, Ethyl acrylate-**maleic acid-styrene copolymer**

85884-66-8, Butyl acrylate-**maleic acid-styrene copolymer**

219657-39-3 255380-87-1, Hexyl acrylate-**maleic**

acid-styrene copolymer 302964-48-3

RL: PRP (Properties); TEM (Technical or engineered material use); USES
(Uses)

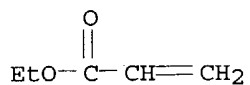
(copolymers as corrosion inhibitors for metal **pigments**)

RN 31605-22-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and ethyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

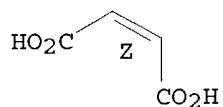
CRN 140-88-5
CMF C5 H8 O2



CM 2

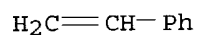
CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



CM 3

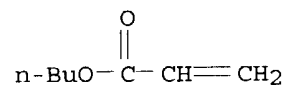
CRN 100-42-5
CMF C8 H8



RN 85884-66-8 CAPLUS
CN 2-Butenedioic acid (2Z)-, polymer with butyl 2-propenoate and
ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

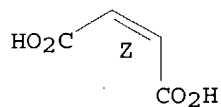
CRN 141-32-2
CMF C7 H12 O2



CM 2

CRN 110-16-7
CMF C4 H4 O4

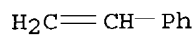
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



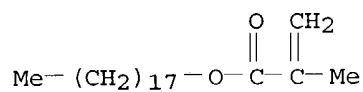
RN 219657-39-3 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and octadecyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 32360-05-7

CMF C22 H42 O2

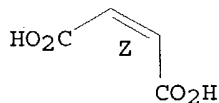


CM 2

CRN 110-16-7

CMF C4 H4 O4

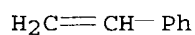
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



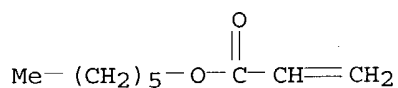
RN 255380-87-1 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and hexyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2499-95-8

CMF C9 H16 O2

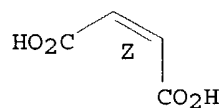


CM 2

CRN 110-16-7

CMF C4 H4 O4

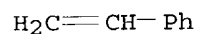
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



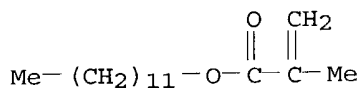
RN 302964-48-3 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with dodecyl 2-methyl-2-propenoate and
ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 142-90-5

CMF C16 H30 O2

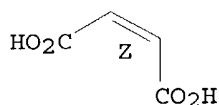


CM 2

CRN 110-16-7

CMF C4 H4 O4

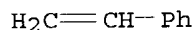
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



CC 56-10 (Nonferrous Metals and Alloys)

Section cross-reference(s): 42

ST corrosion inhibitor metal paint **pigment**

IT Corrosion inhibitors

Pigments, nonbiological

(copolymers as corrosion inhibitors for metal **pigments**)

IT Metals, properties

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(copolymers as corrosion inhibitors for metal **pigments**)

IT 7429-90-5, Aluminum, properties 7440-50-8, Copper, properties

7440-66-6, Zinc, properties **31605-22-8**, Ethyl acrylate-

maleic acid-styrene copolymer 73663-21-5 **85884-66-8**,

Butyl acrylate-**maleic** acid-styrene copolymer **219657-39-3**

255380-87-1, Hexyl acrylate-**maleic** acid-styrene

copolymer **302964-48-3**

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(copolymers as corrosion inhibitors for metal **pigments**)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L59 ANSWER 7 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:383722 CAPLUS

DOCUMENT NUMBER: 133:18926

TITLE: Rubber-erasable **aqueous** ink composition for writing material and writing materials using inks
 INVENTOR(S): Kito, Tsutomu; Hayashi, Hiroyuki; Nakamura, Hiroyuki
 PATENT ASSIGNEE(S): The Pilot Ink Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 40 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1006162	A1	20000607	EP 1999-123940	19991203
EP 1006162	B1	20030903		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
KR 2000047855	A	20000725	KR 1999-54391	19991202
JP 2001019888	A2	20010123	JP 1999-342877	19991202
US 6498203	B1	20021224	US 1999-453477	19991202
CN 1256294	A	20000614	CN 1999-125562	19991203
TW 524833	B	20030321	TW 1999-88121154	19991203
JP 2001019889	A2	20010123	JP 2000-133429	20000502
PRIORITY APPLN. INFO.:			JP 1998-361897	A 19981203
			JP 1999-126455	A 19990506
			JP 1999-126456	A 19990506

AB A rubber-erasable **aqueous** ink for a writing material (ball point pen, fountain pen, marking pen, etc.) contains H₂O, a water-soluble polar solvent, and a particulate adhesive colored resin, optionally a thermoplastic resin for permanent fixability when heated. The particulate adhesive colored resin contains a **pigment** and an adhesive resin which is adhesive on at least a part of a surface. The particulate adhesive colored resin has a particle diameter distribution such that the amount of particles having a particle diameter 2-20 μ m is $\geq 70\%$ by weight of all the particles. Thus, an example ink (viscosity 5.8 MPa-s) contained a dispersion of C black in Bu acrylate-styrene copolymer (glass transition temperature 8°; average particle diameter 8.2 μ m), ethylene glycol, penetrant, and H₂O.

IT **85884-66-8**, Butyl acrylate-**maleic** acid-styrene copolymer
 RL: TEM (Technical or engineered material use); USES (Uses)
 (colored adhesive dispersion; rubber-erasable **aqueous** colored ink composition for writing pens on paper)

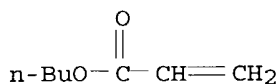
RN 85884-66-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with butyl 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 141-32-2

CMF C7 H12 O2

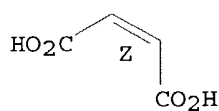


CM 2

CRN 110-16-7

CMF C4 H4 O4

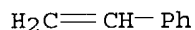
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM C09D011-18

ICS C09D011-16

CC 42-12 (Coatings, Inks, and Related Products)

ST rubber erasable **aq** ink; pen ink **aq** rubber erasable

IT Polyesters, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(colored adhesive dispersion; rubber-erasable **aqueous** colored ink composition for writing pens on paper)

IT Pens

(marking; rubber-erasable **aqueous** colored ink composition for writing pens on paper)

IT Ball-point pens

(rubber-erasable **aqueous** colored ink composition for writing pens on paper)

IT Inks

(water-thinned; rubber-erasable **aqueous** colored ink composition for writing pens on paper)

IT 9003-53-6, Polystyrene 25085-99-8, Bisphenol A diglycidyl ether polymer 25767-47-9, Butyl acrylate-styrene copolymer 25777-71-3, Ethylene glycol dimethacrylate-methyl methacrylate copolymer 34150-22-6, Butyl acrylate-ethylene glycol dimethacrylate-methyl methacrylate copolymer 54335-15-8, Butyl acrylate-ethyl methacrylate copolymer 57383-08-1 57383-09-2 60806-47-5, Butyl acrylate-divinylbenzene-styrene copolymer 73165-18-1 **85884-66-8**, Butyl acrylate-**maleic** acid-styrene copolymer 110877-66-2, Butyl acrylate-1,6-hexanediol

diacrylate-styrene copolymer 272456-34-5, Butyl acrylate-divinylbenzene-ethyl methacrylate copolymer

RL: TEM (Technical or engineered material use); USES (Uses)

(colored adhesive dispersion; rubber-erasable **aqueous** colored ink composition for writing pens on paper)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L59 ANSWER 8 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:811568 CAPLUS

DOCUMENT NUMBER: 132:50407

TITLE: Carboxy-terminated methacrylate block copolymers and their use as dispersants for the production of **aqueous pigment** pastes

INVENTOR(S): Brandt, Petra; Esselborn, Eberhard; Karminski, Hans-Leo; Knebelkamp, Arno; Psiorz, Christian; Silber, Stefan; Wallhorn, Ellen

PATENT ASSIGNEE(S): Th. Goldschmidt A.-G., Germany

SOURCE: Ger., 15 pp.
CODEN: GWXXAW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19836253	C1	19991223	DE 1998-19836253	19980811
EP 979844	A2	20000216	EP 1999-114808	19990729
EP 979844	A3	20000405		
EP 979844	B1	20020605		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

US 6235813	B1	20010522	US 1999-370537	19990809
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PRIORITY APPLN. INFO.: DE 1998-19836253 A 19980811

AB The copolymers have the structure $R1[CH_2CMe(CO_2R_2)]_aCH_2CHMeCOX[CH_2CH_2O]_b[C H_2CHR_3O]_cCH_2CH_2XR_4$ [I; R1 = initiator residue with no active H; R2 = C1-22 alkyl, (un)substituted aryl, perfluoroalkyl; R3 = C1-4 alkyl, Ph; R4 = CO₂H group-containing organic residue; X = O, NH; a = 4-20; b = 20-100; c = 0-20;

b/c \geq 4]. Thus, Me methacrylate was polymerized in toluene with AIBN and n-C₁₂H₂₅SH at 100°, then reinitiated with AIBN and polymerized 1 h to give a polymer with Mn 1710 and Mw/Mn 1.56, which was heated to 120° with an equimolar amount of polyethylene glycol (mol. weight 3000) and mixed with 2% Ti(OPr-iso)₄ with distillation of MeOH and finally treated with **maleic** anhydride to give a I with acid number 12.4 mg KOH/g. This I gave stable dispersions with TiO₂ and with carbon black.

IT **252909-42-5P**, Ethylene oxide-methyl methacrylate graft copolymer monomaleate

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(carboxy-terminated methacrylate block copolymers as dispersants for production of **aqueous pigment** pastes)

RN 252909-42-5 CAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with oxirane,

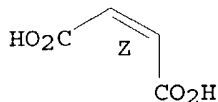
mono[hydrogen (2Z)-2-butenedioate], graft (9CI) (CA INDEX NAME)

CM 1

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



CM 2

CRN 112419-44-0

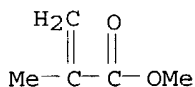
CMF (C5 H8 O2 . C2 H4 O)x

CCI PMS

CM 3

CRN 80-62-6

CMF C5 H8 O2



CM 4

CRN 75-21-8

CMF C2 H4 O



IC ICM C08G081-02

ICS C08F002-20; C09D017-00

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 42, 46

ST **pigment** dispersant methacrylate block copolymer; alkylene oxide methacrylate block copolymer; carboxy terminated block copolymer dispersant

IT Dispersing agents

Pigments, nonbiological

(carboxy-terminated methacrylate block copolymers as dispersants for production of **aqueous pigment** pastes)

IT 252909-42-5P, Ethylene oxide-methyl methacrylate graft copolymer monomaleate 252909-43-6P, Ethylene oxide-methyl methacrylate graft copolymer monosuccinate 252909-45-8P, Ethylene oxide-methyl methacrylate graft copolymer monotrimellitate 252909-46-9P, Butyl methacrylate-ethylene oxide graft copolymer monosuccinate 252909-47-0P, Ethylene oxide-methyl methacrylate-propylene oxide block graft copolymer monosuccinate

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(carboxy-terminated methacrylate block copolymers as dispersants for production of **aqueous pigment** pastes)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L59 ANSWER 9 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:759248 CAPLUS

DOCUMENT NUMBER: 132:109401

TITLE: Corrosion inhibition of copper and brass **pigments** in **aqueous** alkaline media by copolymers

AUTHOR(S): Muller, B.; Schubert, M.

CORPORATE SOURCE: Chemieingenieurwesen/Farbe-Lack-Umwelt, Hochschule fur Technik, Fachhochschule Esslingen, Esslingen, D-73728, Germany

SOURCE: Progress in Organic Coatings (1999), 37(3-4), 193-197
CODEN: POGCAT; ISSN: 0300-9440

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Copper and brass **pigments** corrode in **aqueous** alkaline media with absorption of oxygen which can be measured gasvolumetrically. These corrosion reactions can be inhibited by certain copolymers, the metallic sparkle and the color of the **pigments** being preserved. The brass **pigment** (rich gold) is inhibited more effectively by copolymers than the copper **pigment**. The corrosion inhibiting effect of styrene-maleic acid-acrylic ester copolymers on copper **pigment** decreases with increasing the chain length of the ester alc. of the acrylate monomer. The most effective copolymer examined in this study is the styrene-maleic acid-Et acrylate copolymer which inhibited the corrosion reactions of copper and brass **pigment** both at pH 8.5 and 10.

IT 31605-22-8, Ethyl acrylate-maleic acid-styrene copolymer
85884-66-8, Butyl acrylate-maleic acid-styrene copolymer
255380-87-1, Hexyl acrylate-maleic acid-styrene
copolymer 255380-88-2, Dodecyl acrylate-maleic
acid-styrene copolymer 255380-89-3, Octadecyl acrylate-
maleic acid-styrene copolymer

RL: TEM (Technical or engineered material use); USES (Uses)
(corrosion inhibition of copper and brass **pigments** in **aqueous** alkaline media by acrylate-maleic acid-styrene copolymers)

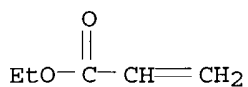
RN 31605-22-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and ethyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 140-88-5

CMF C5 H8 O2

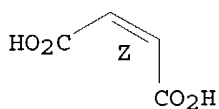


CM 2

CRN 110-16-7

CMF C4 H4 O4

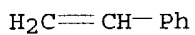
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



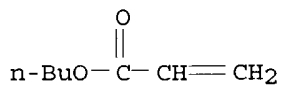
RN 85884-66-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with butyl 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 141-32-2

CMF C7 H12 O2

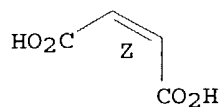


CM 2

CRN 110-16-7

CMF C4 H4 O4

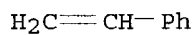
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



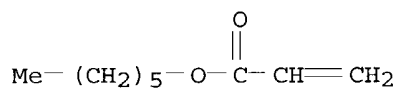
RN 255380-87-1 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and hexyl
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2499-95-8

CMF C9 H16 O2

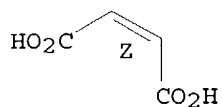


CM 2

CRN 110-16-7

CMF C4 H4 O4

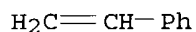
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



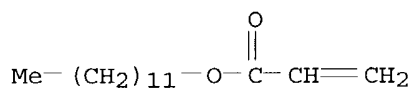
RN 255380-88-2 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with dodecyl 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 2156-97-0

CMF C15 H28 O2

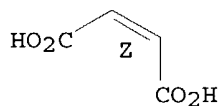


CM 2

CRN 110-16-7

CMF C4 H4 O4

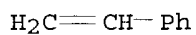
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



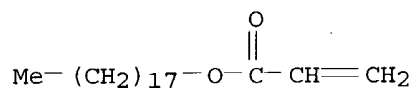
RN 255380-89-3 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene and octadecyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 4813-57-4

CMF C21 H40 O2

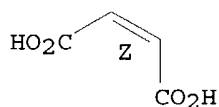


CM 2

CRN 110-16-7

CMF C4 H4 O4

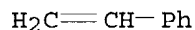
Double bond geometry as shown.



CM 3

CRN 100-42-5

CMF C8 H8



CC 42-6 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38, 56

ST corrosion inhibition copper brass **pigment** copolymer; styrene copolymer corrosion inhibition copper brass; acrylate copolymer corrosion inhibition copper brass; **maleic** acid copolymer corrosion inhibition **pigment**

IT Corrosion inhibitors

(corrosion inhibition of copper and brass **pigments** in **aqueous** alkaline media by acrylate-**maleic** acid-styrene copolymers)

IT Absorption

(oxygen absorption by copper and brass **pigments** in **aq** alkaline media in presence of acrylate-**maleic** acid-styrene copolymers)

IT 7440-50-8, Copper, uses 12597-71-6, Brass, uses 31605-22-8, Ethyl acrylate-**maleic** acid-styrene copolymer 85884-66-8, Butyl acrylate-**maleic** acid-styrene copolymer 255380-87-1, Hexyl acrylate-**maleic** acid-styrene copolymer 255380-88-2, Dodecyl acrylate-**maleic** acid-styrene copolymer 255380-89-3, Octadecyl acrylate-**maleic** acid-styrene copolymer

RL: TEM (Technical or engineered material use); USES (Uses)

(corrosion inhibition of copper and brass **pigments** in **aqueous** alkaline media by acrylate-**maleic** acid-styrene copolymers)

IT 7782-44-7, Oxygen, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (oxygen absorption by copper and brass **pigments** in aq
 . alkaline media in presence of acrylate-**maleic** acid-styrene
 copolymers)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L59 ANSWER 10 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:603572 CAPLUS

DOCUMENT NUMBER: 131:235836

TITLE: Optical transparent green resin compositions
 containing dispersed **pigments**,
 photosensitive green resin compositions,
 photosensitive solutions for green image formation,
 and manufacturing method of colored images and color
 filters

INVENTOR(S): Yamazaki, Koji; Kimura, Yoichi; Okazaki, Tetsuya;
 Yokoji, Seigo; Kato, Shinya; Nagoya, Tomohiro

PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11256053	A2	19990921	JP 1998-135187	19980518
PRIORITY APPLN. INFO.:			JP 1997-206194	19970731
			JP 1998-3871	19980112

AB Title green resin compns. comprise dispersed green **pigments** and
 C.I. **Pigment** Yellow 138. Thus, a photosensitive solution for green
 image comprising styrene-monopropyl maleate-**maleic** acid derivative
 copolymer (weight average mol. weight 11,000; acid value 65) 40, C.I.
Pigment Green 36 15, C.I. **Pigment** Yellow 138 5,
 trimethylolpropane acrylate (monomer) 32, benzophenone (photoinitiator),
 6, N,N'-tetraethyl-4,4'-diaminobenzophenone (photoinitiator) 2, and
 diethylene glycol di-Me ether (solvent) 400 g was coated on a glass,
 irradiated with Hg lamp, developed with 0.3% KOH **aqueous** solution to
 give a green image having CIE standard Y 58.1, x 0.272, and y 0.528.

IT 173652-73-8P 213902-06-8P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)

(optical transparent photosensitive green resin compns. containing
 dispersed **pigments** for photoimaging materials and color
 filters)

RN 173652-73-8 CAPLUS

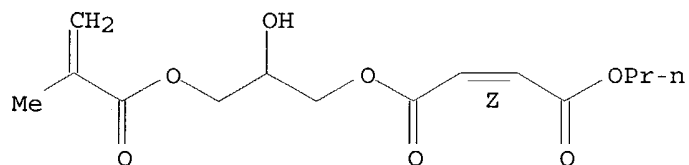
CM 2-Butenedioic acid (2Z)-, 2-hydroxy-3-[(2-methyl-1-oxo-2-
 propenyl)oxy]propyl propyl ester, polymer with ethenylbenzene,
 2-ethyl-2-[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate
 and propyl hydrogen (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

CRN 73085-91-3

CMF C14 H20 O7

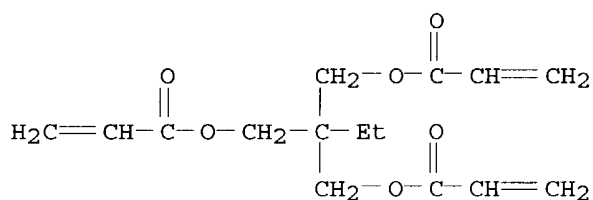
Double bond geometry as shown.



CM 2

CRN 15625-89-5

CMF C15 H20 O6

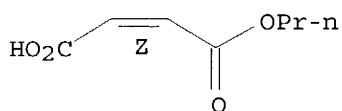


CM 3

CRN 925-03-1

CMF C7 H10 O4

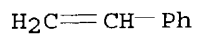
Double bond geometry as shown.



CM 4

CRN 100-42-5

CMF C8 H8



RN 213902-06-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, 2-hydroxy-3-[(2-methyl-1-oxo-2-

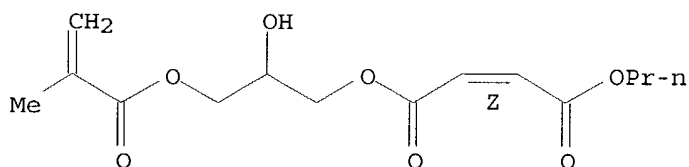
propenyl)oxy]propyl propyl ester, polymer with 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, ethenylbenzene and propyl hydrogen (2Z)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

CRN 73085-91-3

CMF C14 H20 O7

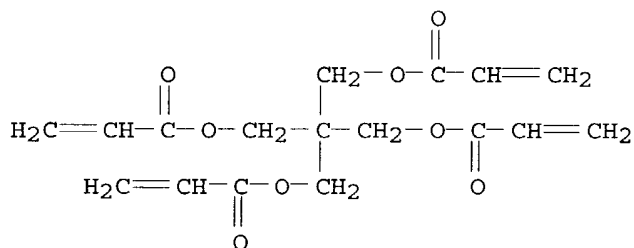
Double bond geometry as shown.



CM 2

CRN 4986-89-4

CMF C17 H20 O8

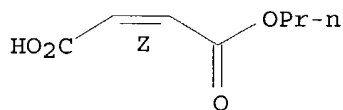


CM 3

CRN 925-03-1

CMF C7 H10 O4

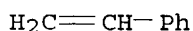
Double bond geometry as shown.



CM 4

CRN 100-42-5

CMF C8 H8



- IC ICM C08L101-00
ICS C09D005-00; G02B005-20; G02B005-22; G03F007-004
- CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST optical transparent resin compn green **pigment**; color filter
photoimage green resin compn; yellow **pigment** green resin compn;
styrene propyl maleate **maleic** acid copolymer photosensitive
green resin; trimethylolpropane acrylate photosensitive green resin compn;
benzophenone ethylaminobenzophenone photoinitiator photosensitive green
resin
- IT **Pigments**, nonbiological
(green; optical transparent photosensitive green resin compns. containing
dispersed **pigments** for photoimaging materials and color
filters)
- IT Light-sensitive materials
Optical filters
Photoimaging materials
(optical transparent photosensitive green resin compns. containing
dispersed **pigments** for photoimaging materials and color
filters)
- IT Polymerization catalysts
(photopolymn.; optical transparent photosensitive green resin compns.
containing dispersed **pigments** for photoimaging materials and
color filters)
- IT **173652-73-8P 213902-06-8P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(optical transparent photosensitive green resin compns. containing
dispersed **pigments** for photoimaging materials and color
filters)
- IT 1326-13-2, C.I. **Pigment** Green 9 14302-13-7, C.I.
Pigment Green 36 30125-47-4, C.I. **Pigment** Yellow 138
RL: TEM (Technical or engineered material use); USES (Uses)
(optical transparent photosensitive green resin compns. containing
dispersed **pigments** for photoimaging materials and color
filters)
- IT 90-93-7 119-61-9, Benzophenone, uses
RL: CAT (Catalyst use); USES (Uses)
(photoinitiator; optical transparent photosensitive green resin compns.
containing dispersed **pigments** for photoimaging materials and
color filters)

L59 ANSWER 11 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:184442 CAPLUS
DOCUMENT NUMBER: 128:231788
TITLE: **Pigment** dispersing agents for paper coatings
INVENTOR(S): Ikenaga, Naoyuki
PATENT ASSIGNEE(S): Kao Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10077597	A2	19980324	JP 1996-233897	19960904

PRIORITY APPLN. INFO.: JP 1996-233897 19960904

AB The dispersing agents, giving high-d. and low-viscosity **pigment** dispersions, are composed of 2-methyleneglutaric acid (co)polymer [comonomers are preferably selected from **maleic** acid, itaconic acid, fumaric acid, and (meth)acrylic acid] alkali metal or ammonium salts. Thus, di-Me 2-methyleneglutarate was polymerized at 50° for 24 h in THF in the presence of azobis(2,4-dimethylvaleronitrile) and then the resulting polymer was hydrolyzed and neutralized with NaOH to give poly(2-methyleneglutaric acid) Na salt (I). An **aqueous** CaCO₃ (Softon 2200) slurry containing 0.3% (vs. CaCO₃) I showed viscosity 215 cP initially and 230 after 3 days.

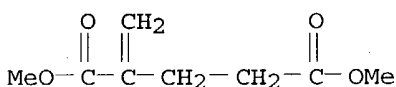
IT **204764-41-0DP**, Dimethyl 2-methyleneglutarate-**maleic** acid copolymer, hydrolyzed, salts
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (methyleneglutaric acid polymer salts for **pigment** dispersants for paper coatings)

RN 204764-41-0 CAPLUS

CN Pentanedioic acid, 2-methylene-, dimethyl ester, polymer with (2Z)-2-butenedioic acid (9CI) (CA INDEX NAME)

CM 1

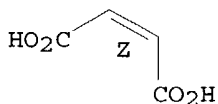
CRN 5621-44-3
 CMF C8 H12 O4



CM 2

CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



IC ICM D21H019-36
 ICS C08F022-02; C09C003-10; C09D135-00

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
 Section cross-reference(s): 42

ST paper coating **pigment** dispersant sodium polymethyleneglutarate

IT Coating materials
 Dispersing agents
 Paper
Pigments, nonbiological
 (methyleneglutaric acid polymer salts for **pigment** dispersants
 for paper coatings)

IT 153044-31-6DP, Pentanedioic acid, 2-methylene-, dimethyl ester,
 homopolymer, hydrolyzed, salts **204764-41-0DP**, Dimethyl
 2-methyleneglutarate-**maleic** acid copolymer, hydrolyzed, salts
204764-42-1DP, Dimethyl 2-methyleneglutarate-itaconic acid copolymer,
 hydrolyzed, salts **204764-43-2DP**, Acrylic acid-dimethyl
 2-methyleneglutarate copolymer, hydrolyzed, salts **204764-44-3DP**,
 Dimethyl 2-methyleneglutarate-methacrylic acid copolymer, hydrolyzed,
 salts
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (methyleneglutaric acid polymer salts for **pigment** dispersants
 for paper coatings)

IT 471-34-1, Softon 2200, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (methyleneglutaric acid polymer salts for **pigment** dispersants
 for paper coatings)

L59 ANSWER 12 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:784314 CAPLUS
 DOCUMENT NUMBER: 128:62927
 TITLE: Powder compositions containing core-shell vinyl
 polymers and coatings from them with good adhesion to
 substrates
 INVENTOR(S): Iyanagi, Koichi; Takahashi, Eiji
 PATENT ASSIGNEE(S): Pola Chemical Industries, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09316277	A2	19971209	JP 1996-139108	19960531
JP 3337609	B2	20021021		

PRIORITY APPLN. INFO.: JP 1996-139108 19960531

AB The coating compns. comprise powders and multilayer polymers consisting of
 a shell comprising copolymers of acrylic compds., styrenes, dienes, vinyl
 chloride, and/or vinyl alc. and **maleic** acid and/or itaconic acid
 and a core comprising vinyl polymers. A mixture containing Me methacrylate
 63.6, 2-ethylhexyl acrylate 26.8, diethylene glycol Bu ether (I) 1.5,
 diethylene glycol Et ether (II) 0.7, and n-dodecyl mercaptan (III) 1.6
 part was polymerized at 70° for 45 min in 115 parts H2O containing 3 parts
 Na lauryl sulfate and 0.5 part K2S2O8 to give core polymer particles and
 subsequently polymerized with a mixture containing acrylic acid 4,

α -methylstyrene 8.6, styrene 2, I 1.2, II 0.3, III 0.5, maleic acid 5, and Et methacrylate 5 parts at 70-90° for 5 h to give a core-shell polymer (IV). A paint containing aqueous IV dispersion (18 parts as IV) 50, TiO₂ 30, di-Et adipate 10, and H₂O 10 parts showed good adhesion to a glass plate for a long period.

IT 200428-55-3P 200428-57-5P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(coating; powder compns. containing core-shell vinyl polymers and coatings from them with good adhesion to substrates)

RN 200428-55-3 CAPLUS

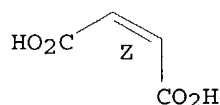
CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene, 2-ethylhexyl 2-propenoate, ethyl 2-methyl-2-propenoate, (1-methylethenyl)benzene, methyl 2-methyl-2-propenoate and 2-propenoic acid, graft (9CI) (CA INDEX NAME)

CM 1

CRN 110-16-7

CMF C4 H4 O4

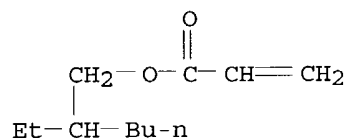
Double bond geometry as shown.



CM 2

CRN 103-11-7

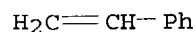
CMF C11 H20 O2



CM 3

CRN 100-42-5

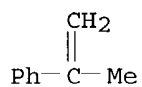
CMF C8 H8



CM 4

CRN 98-83-9

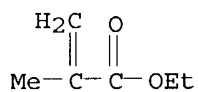
CMF C9 H10



CM 5

CRN 97-63-2

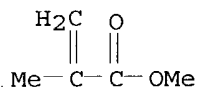
CMF C6 H10 O2



CM 6

CRN 80-62-6

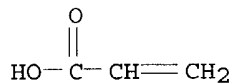
CMF C5 H8 O2



CM 7

CRN 79-10-7

CMF C3 H4 O2



RN 200428-57-5 CAPLUS

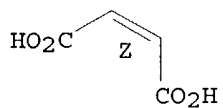
CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene, 2-ethylhexyl
2-propenoate, methylenebutanedioic acid, (1-methylethenyl)benzene, methyl
2-methyl-2-propenoate, 2-propenamide and 2-propenoic acid, graft (9CI)
(CA INDEX NAME)

CM 1

CRN 110-16-7

CMF C4 H4 O4

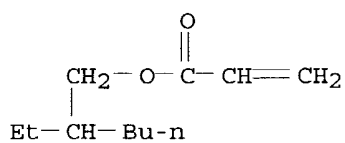
Double bond geometry as shown.



CM 2

CRN 103-11-7

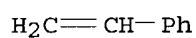
CMF C11 H20 O2



CM 3

CRN 100-42-5

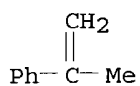
CMF C8 H8



CM 4

CRN 98-83-9

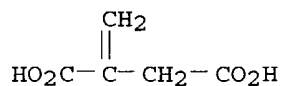
CMF C9 H10



CM 5

CRN 97-65-4

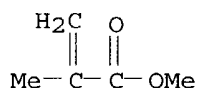
CMF C5 H6 O4



CM 6

CRN 80-62-6

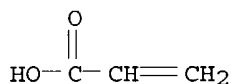
CMF C5 H8 O2



CM 7

CRN 79-10-7

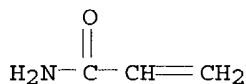
CMF C3 H4 O2



CM 8

CRN 79-06-1

CMF C3 H5 N O



IC ICM C08L051-00

ICS C08K003-00; C08L035-00; C09D005-03

CC 42-7 (Coatings, Inks, and Related Products)

ST core shell acrylic vinyl polymer coating; adhesion acrylic vinyl polymer paint; powder core shell polymer blend coating

IT Coating materials

(dispersion; powder compns. containing core-shell vinyl polymers and coatings from them with good adhesion to substrates)

IT Polymerization

Polymerization

(emulsion, graft; manufacture of multilayer core-shell polymers for coatings with good adhesion to substrates)

IT Paints

(powder compns. containing core-shell vinyl polymers and coatings from them with good adhesion to substrates)

IT 200428-55-3P 200428-56-4P 200428-57-5P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(coating; powder compns. containing core-shell vinyl polymers and coatings from them with good adhesion to substrates)

IT 1309-37-1, Red iron oxide, uses 12227-89-3, Black iron oxide
12626-43-6, Chromium hydroxide 13463-67-7, Titania, uses 51274-00-1,
Yellow iron oxide

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(**pigment**; powder compns. containing core-shell vinyl polymers and coatings from them with good adhesion to substrates)

L59 ANSWER 13 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:307642 CAPLUS

DOCUMENT NUMBER: 126:279092

TITLE: **Aqueous** colored base automobile coating
composition with good strength, water and chipping
resistance

INVENTOR(S): Kasari, Akira; Oda, Hiroaki; Kajima, Junichi;
Shimakawa, Mikio

PATENT ASSIGNEE(S): Kansai Paint Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 20 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 761787	A2	19970312	EP 1996-113406	19960821
EP 761787	A3	19981230		
EP 761787	B1	20011107		
R: DE, GB				
JP 09059563	A2	19970304	JP 1995-217599	19950825
JP 09176559	A2	19970708	JP 1995-338801	19951226
JP 09206665	A2	19970812	JP 1996-19730	19960206

PRIORITY APPLN. INFO.: JP 1995-217599 A 19950825
JP 1995-338801 A 19951226
JP 1996-19730 A 19960206

AB The **aqueous** colored base coating composition (A) comprises a hydroxyl- and carboxyl-containing acrylic resin, a melamine resin, an alicyclic epoxy-containing compound, a neutralizing agent, and a coloring **pigment**. A method for forming a topcoat comprises applying the **aqueous** colored base coating composition (A) to a substrate and applying to the base coat an organic solvent type clear coating composition (B) to be cured by the crosslinking reaction between a carboxyl group and an epoxy group. An **aqueous** coating containing styrene-Me methacrylate-n-Bu methacrylate-n-Bu acrylate-hydroxyethyl methacrylate-acrylic acid copolymer 100, Cymel 370 30, Celloxide 2021 5, and metallic **pigment** 20 parts was applied on a steel panel (precoated with Elecron 9800 and LUGA BAKE AM) and followed by a clear coating containing **maleic** acid methanol half

ester- 4-hydroxybutyl acrylate-Bu acrylate-styrene copolymer 50 and maleic acid methanol half ester- 4-hydroxybutyl acrylate-Bu acrylate-styrene copolymer 50 parts, giving a 2-coat-1-bake top coat with good chipping and water resistance.

IT 188899-03-8P 188899-04-9P

RL: PNU (Preparation, unclassified); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(clear coating; **aqueous** colored base automobile coating composition with good strength, water and chipping resistance)

RN 188899-03-8 CAPLUS

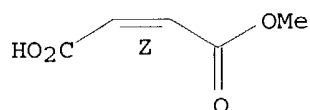
CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with butyl 2-propenoate, ethenylbenzene and 4-hydroxybutyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 3052-50-4

CMF C5 H6 O4

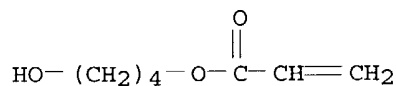
Double bond geometry as shown.



CM 2

CRN 2478-10-6

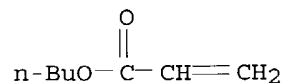
CMF C7 H12 O3



CM 3

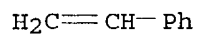
CRN 141-32-2

CMF C7 H12 O2



CM 4

CRN 100-42-5
CMF C8 H8

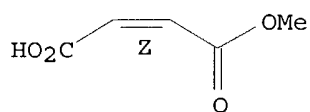


RN 188899-04-9 CAPLUS
CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with butyl
2-propenoate, ethenylbenzene and 2-hydroxyethyl 2-propenoate (9CI) (CA
INDEX NAME)

CM 1

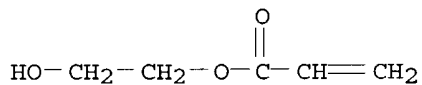
CRN 3052-50-4
CMF C5 H6 O4

Double bond geometry as shown.



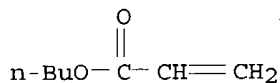
CM 2

CRN 818-61-1
CMF C5 H8 O3



CM 3

CRN 141-32-2
CMF C7 H12 O2



CM 4

CRN 100-42-5
CMF C8 H8

H₂C=CH-Ph

IC ICM C09D133-06
ICS C09D161-20; C09D163-00; B05D007-26

CC 42-10 (Coatings, Inks, and Related Products)

ST **aq** colored base coating compn; acrylic resin compn topcoat automobile; melamine resin compn topcoat automobile; two coat one bake topcoat automobile

IT Epoxy resins, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(acrylic; **aqueous** colored base automobile coating composition with good strength, water and chipping resistance)

IT Coating materials
(**aqueous** colored base automobile coating composition with good strength, water and chipping resistance)

IT Aminoplasts
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**aqueous** colored base automobile coating composition with good strength, water and chipping resistance)

IT Epoxy resins, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**aqueous** colored base automobile coating composition with good strength, water and chipping resistance)

IT **Pigments**, nonbiological
(metallic; **aqueous** colored base automobile coating composition with good strength, water and chipping resistance)

IT 57828-93-0P
RL: PNU (Preparation, unclassified); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**aqueous** colored base automobile coating composition with good strength, water and chipping resistance)

IT 9003-08-1, Cymel 370 25085-98-7, Celloxide 2021 25086-25-3, EHPE 3150 151465-25-7, Epolead GT 300 188945-43-9, ERC 4299
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**aqueous** colored base automobile coating composition with good strength, water and chipping resistance)

IT 188992-04-3, Elecron 9800 188992-14-5, Luga Bake AM
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**aqueous** colored base automobile coating composition with good strength, water and chipping resistance)

IT 181950-62-9P **188899-03-8P 188899-04-9P** 188899-05-0P
RL: PNU (Preparation, unclassified); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(clear coating; **aqueous** colored base automobile coating composition with good strength, water and chipping resistance)

L59 ANSWER 14 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:733963 CAPLUS

DOCUMENT NUMBER: 126:9305

TITLE: **Aqueous** dispersions of fluorescent **pigments** and manufacture of the dispersions

INVENTOR(S): Waters, John F.

PATENT ASSIGNEE(S): Day-Glo Color Corp., USA

SOURCE: PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9631565	A1	19961010	WO 1996-US4672	19960404
W: AU, BR, CA, CN, FI, JP, KR, MX				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9655343	A1	19961023	AU 1996-55343	19960404
PRIORITY APPLN. INFO.:			US 1995-417915	19950406
			WO 1996-US4672	19960404

AB The present invention provides a fluorescent **pigment** and **aqueous** dispersion of fluorescent **pigment** having improved color purity and fluorescence useful for graphic arts applications such as textile printing inks, gravure or flexog. printing inks, marker inks, and paints. The fluorescent **pigment** comprises a polymer and a fluorescent dye. The polymer is preferably water insol. and comprises from about 40% to about 85%, preferably about 52% to about 65% total weight, of a water insol. vinyl monomer free of polar groups, from about 15% to about 35%, preferably about 25% to about 35% of total polymer weight, of a vinyl nitrile monomer, from about 1.5% to about 4.5% total weight of a vinyl surface active monomer, from about 0% to about 40%, preferably about 5% to about 12% total weight of a polar vinyl monomer, and from about 0.25% to about 20%, preferably about 1% to 5% of a vinyl monomer containing carboxylic acid groups. The polar vinyl monomer is selected from the group consisting of: polar acrylate esters or methacrylate esters, vinyl acetate, and a substituted acrylamide containing hydroxyl groups or carboxylic ester groups. A typical dispersion was manufactured by

dispersion-polymerization of

2-sulfoethyl methacrylate 4.25, **maleic** acid 5.1, Na
 2-acrylamido-2-methylpropanesulfonate (50% **aqueous** solution) 10.2,
 hydroxypropyl methacrylate 34, styrene 196.5, acrylonitrile 86.7, and
 methacrylic acid 6.8 g in the presence of C.I. Solvent Yellow 160:1 4.51,
 C.I. Basic Red 1 2.4, and C.I. Basic Violet 11 0.54 g.

IT 183973-37-7P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM
 (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (**aqueous** dispersions of fluorescent **pigments** containing
 acrylic polymer dispersants and fluorescent dyes)

RN 183973-37-7 CAPLUS

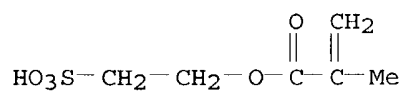
CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene,
 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid monosodium
 salt, 2-methyl-2-propenoic acid, 1,2-propanediol mono(2-methyl-2-
 propenoate), 2-propenenitrile and 2-sulfoethyl 2-methyl-2-propenoate (9CI)

(CA INDEX NAME)

CM 1

CRN 10595-80-9

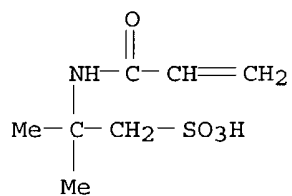
CMF C6 H10 O5 S



CM 2

CRN 5165-97-9

CMF C7 H13 N O4 S . Na



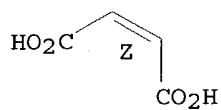
● Na

CM 3

CRN 110-16-7

CMF C4 H4 O4

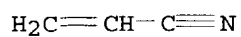
Double bond geometry as shown.



CM 4

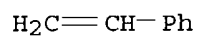
CRN 107-13-1

CMF C3 H3 N



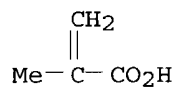
CM 5

CRN 100-42-5
CMF C8 H8



CM 6

CRN 79-41-4
CMF C4 H6 O2

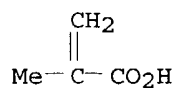


CM 7

CRN 27813-02-1
CMF C7 H12 O3
CCI IDS

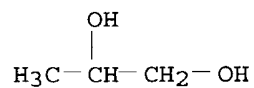
CM 8

CRN 79-41-4
CMF C4 H6 O2



CM 9

CRN 57-55-6
CMF C3 H8 O2



IT 183973-38-8P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM

(Technical or engineered material use); PREP (Preparation); USES (Uses)
 (aqueous dispersions of fluorescent pigments containing
 acrylic polymer dispersants and fluorescent dyes for inks)

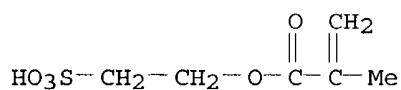
RN 183973-38-8 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylbenzene, 1,2-propanediol
 mono(2-methyl-2-propenoate), 2-propenenitrile and 2-sulfoethyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 10595-80-9

CMF C6 H10 O5 S

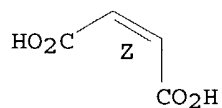


CM 2

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



CM 3

CRN 107-13-1

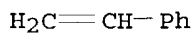
CMF C3 H3 N



CM 4

CRN 100-42-5

CMF C8 H8

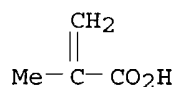


CM 5

CRN 27813-02-1
CMF C7 H12 O3
CCI IDS

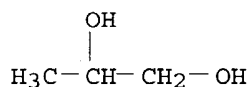
CM 6

CRN 79-41-4
CMF C4 H6 O2



CM 7

CRN 57-55-6
CMF C3 H8 O2



IC ICM C08L033-10
ICS C08L031-02; C08L081-00; C09K011-06
CC 42-6 (Coatings, Inks, and Related Products)
ST fluorescent **pigment aq** dispersion; methacrylic acid
copolymer dispersant fluorescent **pigment**; acrylonitrile
copolymer dispersant fluorescent **pigment**; styrene copolymer
dispersant fluorescent **pigment**; hydroxypropyl methacrylate
copolymer dispersant fluorescent **pigment**;
acrylamidomethylpropanesulfonate copolymer dispersant fluorescent
pigment; maleic acid copolymer dispersant fluorescent
pigment; sulfoethyl methacrylate copolymer dispersant fluorescent
pigment; acrylic polymer dispersant fluorescent **pigment**
IT Dispersing agents
Fluorescent **pigments**
Inks
(**aqueous** dispersions of fluorescent **pigments** containing
acrylic polymer dispersants and fluorescent dyes for inks)
IT 39393-39-0, C.I. Basic Violet 11:1
RL: TEM (Technical or engineered material use); USES (Uses)
(Basonyl Red 560, dye; **aqueous** dispersions of fluorescent
pigments containing acrylic polymer dispersants and fluorescent
dyes for inks)
IT 35773-43-4, C.I. Solvent Yellow 160:1
RL: TEM (Technical or engineered material use); USES (Uses)
(Day-Glo Potomac Yellow,; **aqueous** dispersions of fluorescent
pigments containing acrylic polymer dispersants and fluorescent
dyes for inks)

IT 183973-37-7P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (aqueous dispersions of fluorescent pigments containing acrylic polymer dispersants and fluorescent dyes)

IT 183973-38-8P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (aqueous dispersions of fluorescent pigments containing acrylic polymer dispersants and fluorescent dyes for inks)

IT 989-38-8, Basonyl Red 482 12221-86-2, C.I. Basic Yellow 40
 RL: TEM (Technical or engineered material use); USES (Uses) (dye; aqueous dispersions of fluorescent pigments containing acrylic polymer dispersants and fluorescent dyes for inks)

L59 ANSWER 15 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:595824 CAPLUS
 DOCUMENT NUMBER: 125:224773
 TITLE: Water-thinned ink compositions containing pigments, styrene-acrylic resin emulsions, and water-soluble alkali-soluble acrylic resin varnishes for paper
 INVENTOR(S): Uematsu, Koichi; Tsutsumi, Yosuke; Nagashima, Hideki
 PATENT ASSIGNEE(S): Sakata Inks, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08176486	A2	19960709	JP 1994-318900	19941221
JP 3394828	B2	20030407		

PRIORITY APPLN. INFO.: JP 1994-318900 19941221

AB Inks giving prints with high gloss and clear color comprise pigments, water, and 1.0:0.05-1.0 (solids) mixts. of (a) emulsions of water-based resin of glass transition temperature $\geq 50^\circ$ and average particle size 30-150 nm prepared by emulsion polymerization of styrene (I)-type monomers, Me methacrylate (II), and (meth)acrylate esters in alkaline aqueous solns. in the presence of polymer emulsifiers at I + II + ester:emulsifier = 92:8-60:40 and I + II:(emulsifier) = 70:30-100:0 (the emulsifiers have acid value 80-300 and number-average mol. weight

3000-200,000) and

(b) water-soluble resin vanishes, i.e., solns. of acrylic resins, I-acrylic resins, and/or I-maleic acid-acrylic resins of acid value 5-300 in aqueous alkaline solns. Thus, 15.0 parts (solids) emulsion comprising 15 parts 20.0:5.0:75.0 methacrylic acid-II-Et acrylate (III) copolymer as emulsifiers and 85 parts emulsion-polymerized polystyrene, 8.0 parts 10:10:10:10 acrylic acid-II-III-I copolymer varnish, 15.0 parts Fastogen Blue TGR, 59.9 parts water, and other additives were mixed to give a bubble-free ink showing good fluidity and high gloss on paper.

IT 181508-38-3P
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP

(Preparation); USES (Uses)

(emulsifiers; in water-thinned inks containing styrene-Me methacrylate polymer emulsions and water-soluble acrylic resin varnish for paper)

RN 181508-38-3 CAPLUS

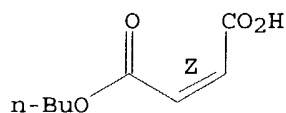
CN 2-Butenedioic acid (2Z)-, monobutyl ester, polymer with ethenylbenzene, ethyl 2-propenoate, methyl 2-methyl-2-propenoate and 2-methyl-2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 925-21-3

CMF C8 H12 O4

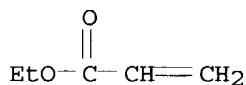
Double bond geometry as shown.



CM 2

CRN 140-88-5

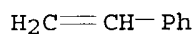
CMF C5 H8 O2



CM 3

CRN 100-42-5

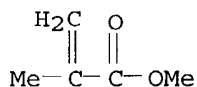
CMF C8 H8



CM 4

CRN 80-62-6

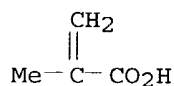
CMF C5 H8 O2



CM 5

CRN 79-41-4

CMF C4 H6 O2



IT 146268-81-7P, Ethyl acrylate-monobutyl maleate-styrene copolymer
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (varnish; water-thinned inks containing styrene-Me methacrylate polymer emulsions and water-soluble acrylic resin varnish for paper)

RN 146268-81-7 CAPLUS

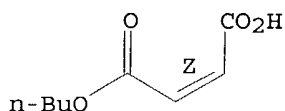
CN 2-Butenedioic acid (2Z)-, monobutyl ester, polymer with ethenylbenzene and ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 925-21-3

CMF C8 H12 O4

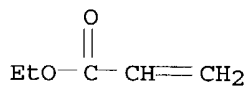
Double bond geometry as shown.



CM 2

CRN 140-88-5

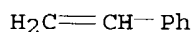
CMF C5 H8 O2



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM C09D011-10
ICS C09D011-10
CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): 43
ST water thinned printing ink; fluidity water based ink; emulsion acrylic resin **aq** ink; alkali sol water sol varnish; styrene acrylic resin emulsion ink; **maleic** acid acrylic resin varnish; methacrylic acid methyl methacrylate copolymer; ethyl acrylate copolymer emulsifier; acrylic acid styrene copolymer varnish
IT Emulsifying agents
(polymer; in water-thinned inks containing styrene-Me methacrylate polymer emulsions and water-soluble acrylic resin varnish for paper)
IT Paper
(water-thinned inks containing styrene-Me methacrylate polymer emulsions and water-soluble acrylic resin varnish for paper)
IT Polymerization
(emulsion, of vinyl compds. for polymers in water-thinned inks containing polymer emulsions and water-soluble acrylic resin varnish for paper)
IT Vinyl compounds, uses
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(polymers, emulsifiers; water-thinned inks containing styrene-Me methacrylate polymer emulsions and water-soluble acrylic resin varnish for paper)
IT 25133-97-5P, Ethyl acrylate-methacrylic acid-methyl methacrylate copolymer 25585-75-5P, Acrylic acid-ethyl acrylate-methyl methacrylate-styrene copolymer **181508-38-3P**
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(emulsifiers; in water-thinned inks containing styrene-Me methacrylate polymer emulsions and water-soluble acrylic resin varnish for paper)
IT 9003-53-6P, Polystyrene 9010-92-8P, Methacrylic acid-styrene copolymer 9011-14-7P, Poly(methyl methacrylate) 25066-97-1P, Ethyl acrylate-styrene copolymer 25767-47-9P, Butyl acrylate-styrene copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(emulsions; water-thinned inks containing styrene-Me methacrylate polymer emulsions and water-soluble acrylic resin varnish for paper)
IT 147-14-8, Fastogen Blue TGR
RL: MOA (Modifier or additive use); USES (Uses)
(**pigments**; water-thinned inks containing styrene-Me methacrylate polymer emulsions and water-soluble acrylic resin varnish for paper)
IT 25215-62-7P, Monobutyl maleate-styrene copolymer **146268-81-7P**, Ethyl acrylate-monobutyl maleate-styrene copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(varnish; water-thinned inks containing styrene-Me methacrylate polymer emulsions and water-soluble acrylic resin varnish for paper)

L59 ANSWER 16 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:457619 CAPLUS

DOCUMENT NUMBER: 125:117657

TITLE: Water-based inks containing allyl ether polymers

INVENTOR(S): Hirasa, Takashi; Takimoto, Hiroshi; Murata, Jukichi;

PATENT ASSIGNEE(S): Mikami, Hiroshi; Toki, Satoshi
 SOURCE: Mitsubishi Chemical Corp., Japan
 Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

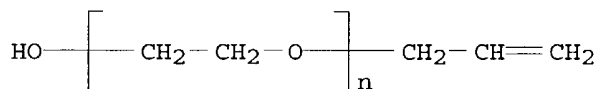
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08104836	A2	19960423	JP 1994-239910	19941004
US 5859092	A	19990112	US 1997-840451	19970418
PRIORITY APPLN. INFO.:			JP 1994-239910	19941004

AB Title inks, useful for ink-jet printing, writing pens, etc., contain water-based media, **pigments**, and polymers including (A) carboxyl- or acid anhydride-substituted repeating units and (B) CH₂CH[CH₂(OCHR₁CHR₂)_nOR₃] [R₁, R₂ = H, (substituted) C₁-5 alkyl; R₃ = H, alkyl, alkylcarbonyl, alkenyl, alkenylcarbonyl, aryl, arylcarbonyl, aralkyl, aralkylcarbonyl, cycloalkyl, cycloalkylcarbonyl, heterocyclyl, heterocyclylcarbonyl; R₃ except H may be substituted; n = 1-50]. Thus, a composition of glycerin 16, ethylene glycol 18, carbon black 11, hydrolyzed polyethylene glycol allyl Me ether-**maleic** anhydride copolymer 3, and water 52 parts used in ink-jet printing showed stable extrusion and gave water-resistant clear printed dots.

IT **179267-76-6**
 RL: MOA (Modifier or additive use); USES (Uses)
 (water-based jet-printing inks containing allyl ether polymers with water resistance)

RN 179267-76-6 CAPLUS
 CN 2-Butenedioic acid (2Z)-, disodium salt, polymer with 1-butene and α-2-propenyl-ω-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

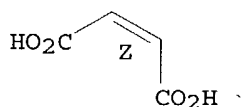
CM 1
 CRN 27274-31-3
 CMF (C₂ H₄ O)_n C₃ H₆ O
 CCI PMS



CM 2

CRN 371-47-1
 CMF C₄ H₄ O₄ . 2 Na

Double bond geometry as shown.

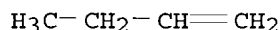


●2 Na

CM 3

CRN 106-98-9

CMF C4 H8



- IC ICM C09D011-00
- ICS C09D011-10; C09D011-16
- CC 42-12 (Coatings, Inks, and Related Products)
- Section cross-reference(s): 38
- ST water based ink polymer alc; allyl ether polymer **aq** ink; jet printing ink water resistance; **maleic** anhydride copolymer hydrolyzed ink; polyoxyethylene allyl methyl ether copolymer
- IT Carbon black, uses
- RL: TEM (Technical or engineered material use); USES (Uses)
- (**pigments**; for water-based jet-printing inks containing allyl ether polymers with water resistance)
- IT Water-resistant materials
- (water-based jet-printing inks containing allyl ether polymers with water resistance)
- IT Alkenes, uses
- RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
- (C>30 α -, reaction products, of Dialene 30 with allyl ethers and **maleic** anhydride, hydrolyzed; water-based jet-printing inks containing allyl ether polymers with water resistance)
- IT Inks
- (jet-printing, water-based jet-printing inks containing allyl ether polymers with water resistance)
- IT 56-81-5, Glycerin, uses 107-21-1, Ethylene glycol, uses
- RL: MOA (Modifier or additive use); USES (Uses)
- (additives; for water-based jet-printing inks containing allyl ether polymers with water resistance)
- IT 7732-18-5, Water, uses
- RL: NUU (Other use, unclassified); USES (Uses)
- (solvents; water-based jet-printing inks containing allyl ether polymers with water resistance)
- IT 108-31-6DP, **Maleic** anhydride, reaction products with polyoxyalkylene allyl ethers, hydrolyzed 27252-80-8DP, Polyethylene glycol allyl methyl ether, reaction products with olefins and **maleic** anhydride, hydrolyzed

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(water-based jet-printing inks containing allyl ether polymers with water resistance)

IT 112311-92-9D, **Maleic** anhydride-poly(oxyethylene) allyl methyl ether copolymer, hydrolyzed 179267-75-5 **179267-76-6**

RL: MOA (Modifier or additive use); USES (Uses)
(water-based jet-printing inks containing allyl ether polymers with water resistance)

L59 ANSWER 17 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:929620 CAPLUS

DOCUMENT NUMBER: 124:32359

TITLE: Manufacture of coated paper with good printability and gloss

INVENTOR(S): Tsutsumi, Yosuke; Fukunaga, Masahiro; Hirano, Isamu; Kojima, Mitsuru

PATENT ASSIGNEE(S): Sakata Inks, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07229091	A2	19950829	JP 1993-140706	19930611
JP 3247768	B2	20020121		

PRIORITY APPLN. INFO.: JP 1993-140706 19930611

AB The paper is coated and pressed with a heated roll at 90-160° with 10-40 g/m2 (dry weight) of a composition comprising **pigment** (30/70)-(100/0) mixts. of CaCO3 (average particle size 0.04-1.0 μm) and other inorg. materials dispersed with a bead mill or a ball mill in ≥1 **aqueous** binder resins [acid value 50-250, glass-transition temperature (Tg) -50 to 120°] selected from acrylic resins, styrene-acrylic resins, styrene-**maleic** acid resins, and styrene-acrylic acid-**maleic** acid resins with weight ratio of the **pigments** and the binder resins (70/30)-(95/5). The coated paper is also claimed. Thus, methacrylic acid 50, Me methacrylate 120, styrene 130, and 2-ethylhexyl acrylate 100 parts were polymerized in EtOAc in the presence of di-tert-Bu peroxide to give a binder resin (acid value 81, Tg 30°), which was neutralized with **aqueous** ammonia to give a 40%-solid binder resin varnish. A composition of Hakuensa T-DD (size 0.14 μm) 45, Brilliant-15 30, the above varnish 10, and H2O 15 parts was dispersed, applied on paper, dried at a room temperature, and pressed to a heated mirror-surface drum at 108° to give coated paper showing gloss 60-80, an off-set ink setting time <1 min, and good H2O resistance.

IT **171970-23-3P**

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(manufacture of coated paper with good gloss, printability, and water resistance)

RN 171970-23-3 CAPLUS

CN 2-Butenedioic acid (2Z)-, monobutyl ester, polymer with ethenylbenzene,
2-ethylhexyl 2-propenoate and 2-methyl-2-propenoic acid, ammonium salt
(9CI) (CA INDEX NAME)

CM 1

CRN 171970-22-2

CMF (C11 H20 O2 . C8 H12 O4 . C8 H8 . C4 H6 O2)x

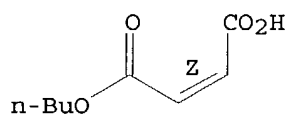
CCI PMS

CM 2

CRN 925-21-3

CMF C8 H12 O4

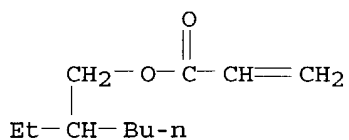
Double bond geometry as shown.



CM 3

CRN 103-11-7

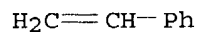
CMF C11 H20 O2



CM 4

CRN 100-42-5

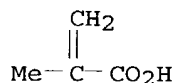
CMF C8 H8



CM 5

CRN 79-41-4

CMF C4 H6 O2



IC ICM D21H019-38
ICS D21H019-44
CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
ST acrylic polymer coating paper printability; water resistance acrylic coating paper; calcium carbonate coating paper gloss
IT Coating materials
Paper
(manufacture of coated paper with good gloss, printability, and water resistance)
IT 37001-63-1P, 2-Ethylhexyl acrylate-methacrylic acid-methyl methacrylate copolymer ammonium salt 71926-41-5P, 2-Ethylhexyl acrylate-methacrylic acid-methyl methacrylate-styrene copolymer ammonium salt 156721-60-7P 171913-64-7P 171970-21-1P **171970-23-3P**
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(manufacture of coated paper with good gloss, printability, and water resistance)
IT 471-34-1, Hakuenka T-DD, uses
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manufacture of coated paper with good gloss, printability, and water resistance)

L59 ANSWER 18 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:136179 CAPLUS

DOCUMENT NUMBER: 120:136179

TITLE: Manufacture of fine resin particles fixed with water-insoluble chemicals

INVENTOR(S): Ishii, Keizo; Okada, Hidekazu; Ooiwa, Masanori; Muramoto, Hisaichi; Ishikura, Shinichi

PATENT ASSIGNEE(S): Nippon Paint Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05239112	A2	19930917	JP 1992-81718	19920302
US 5302654	A	19940412	US 1993-24966	19930302

PRIORITY APPLN. INFO.: JP 1992-81718 19920302

AB The title particles showing good stability at high load are prepared by dispersing water-insol. chems. such as dyes, pigments, agrochems., catalysts, etc. in a solution of self-emulsifying resin (water tolerance ≥ 4 , 1% solution surface tension ≤ 51 dyne/cm) in nonaq. solvent, emulsifying the resin solution together with ethylenically

unsatd. monomer in an **aqueous** medium, and polymerizing the monomer in the oil droplets. A mixture of styrene-maleic anhydride copolymer 300, p-methoxyphenol 0.89, and dimethylbenzylamine 1.78 parts at 125° was treated with 27.5 parts BuOH over 30 min, further reacted for 1 h, treated with 19.0 parts 2-hydroxyethyl methacrylate over 30 min, further reacted for 30 min to give a resin with Mn 4790 and acid value 148. A solution from this resin 56, benzene 7, and EtOH 7 parts was stirred with 7 parts nigrosine, 4 parts dimethylethanolamine, then 450 parts water to obtain an emulsion which was stirred vigorously with 26 parts Me methacrylate, heated to 80°, treated over 1 h with a mixture of azobis(cyanovaleric acid) 0.7, dimethylethanolamine 0.4, and water 10 parts, further reacted for 2 h, and filtered to give a 11.1%-solids emulsion with particle diameter 250 nm, giving markings on whiteboard with good erasability.

IT 153244-97-4

RL: USES (Uses)

(self-emulsifying, in manufacture of fine polymer particles fixed with water-insol. chems.)

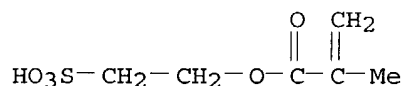
RN 153244-97-4 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with dodecyl 2-methyl-2-propenoate, ethenylbenzene, methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and 2-sulfoethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 10595-80-9

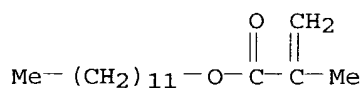
CMF C6 H10 O5 S



CM 2

CRN 142-90-5

CMF C16 H30 O2

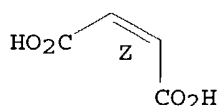


CM 3

CRN 110-16-7

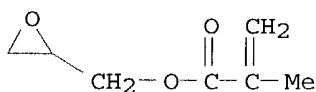
CMF C4 H4 O4

Double bond geometry as shown.



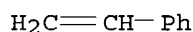
CM 4

CRN 106-91-2
CMF C7 H10 O3



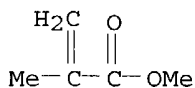
CM 5

CRN 100-42-5
CMF C8 H8



CM 6

CRN 80-62-6
CMF C5 H8 O2



IC ICM C08F002-22
ICS C08F002-44; C08K009-10
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 42
ST PMMA whiteboard marking ink erasable; **maleic** anhydride copolymer
self emulsifying; nigrosine fixation PMMA particle; dye fixation polymer
particle; **pigment** fixation polymer particle; agrochem fixation
polymer particle; catalyst fixation polymer particle
IT Electric charge
(fine polymer particles fixed with water-insol. control agents for)
IT Coating materials
(fine polymer particles fixed with water-insol. crosslinking catalysts
and degradation preventers for)
IT Polymerization
(in manufacture of fine polymer particles fixed with water-insol. chems.)

IT **Pigments**
(manufacture of fine polymer particles fixed with)

IT Crosslinking catalysts
(manufacture of fine polymer particles fixed with, for coatings)

IT Inks
(marking, erasable, nigrosine-fixed PMMA fine particles for, for whiteboards)

IT Dyes
(water-insol., manufacture of fine polymer particles fixed with)

IT 8005-03-6P, Nigrosine
RL: PREP (Preparation)
(PMMA fine particles fixed with, manufacture of, for erasable marking pen inks)

IT 95567-20-7P, Diaresin Blue P
RL: PREP (Preparation)
(fine polymer particles fixed with, manufacture of)

IT 9011-14-7P, PMMA
RL: PREP (Preparation)
(manufacture of fine particles, fixed with water-insol. chems.)

IT 9003-70-7P, Divinylbenzene-styrene copolymer 26376-90-9P, Ethylene glycol dimethacrylate-styrene copolymer 52857-82-6P, Methyl methacrylate-neopentyl glycol dimethacrylate copolymer
RL: PREP (Preparation)
(manufacture of, fine particles, fixed with dyes)

IT 82-38-2P, Diaresin Red S 153326-40-0P, Diaresin Yellow 3G
RL: PREP (Preparation)
(polymer fine particles fixed with, manufacture of)

IT 71-36-3D, 1-Butanol, reaction products with styrene-**maleic** anhydride copolymer and hydroxyethyl methacrylate 108-31-6D, 2,5-Furandione, reaction products with polybutadiene and butoxyethanol and polyethylene glycol monolauryl ether 111-76-2D, 2-Butoxyethanol, reaction products with maleated polybutadiene 868-77-9D, reaction products with styrene-**maleic** anhydride copolymer and butanol 9002-92-0D, reaction products with maleated polybutadiene 9003-17-2D, Polybutadiene, maleated, reaction products with butoxyethanol and polyethylene glycol monolauryl ether 9011-13-6D, **Maleic** anhydride-styrene copolymer, reaction products with butanol and hydroxyethyl methacrylate 25068-38-6D, reaction products with methacryloyl isocyanate **153244-97-4**
RL: USES (Uses)
(self-emulsifying, in manufacture of fine polymer particles fixed with water-insol. chems.)

L59 ANSWER 19 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1993:518723 CAPLUS

DOCUMENT NUMBER: 119:118723

TITLE: Colored microsphere-containing dispersion compositions

INVENTOR(S): Kitahara, Shizuo

PATENT ASSIGNEE(S): Nippon Zeon Co, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05017694	A2	19930126	JP 1991-198638	19910712
PRIORITY APPLN. INFO.:			JP 1991-198638	19910712

AB Colored microspheres, manufactured by dissolving and dispersing colorants and compds. containing C:N+ bonds in monomers and polymerizing the monomers, are dispersed in binders or vehicles to give title compns. which have good storage stability and are useful for coatings, video tapes, thermal-transfer ink ribbons, etc. Thus, reacting 100 g 1-eicosene with benzylideneoctylamine 1, AcCl 1, and TiCl₄ 1 mol at 60°, dispersing the product (2 parts) in an **aqueous** solution containing poly(vinyl alc.) and 6 parts carbon black, and polymerizing 100 parts styrene and 0.3 part divinylbenzene in the dispersion at 80° gave colored microspheres. A composition containing the microspheres, vinyl acetate-vinyl chloride copolymer, Nippollan 2301, Coronate L, and MEK was coated on PET film and dried to give a coating showing resistivity 0.8 + 10⁴ Ω-cm and good abrasion resistance.

IT 32650-26-3
RL: USES (Uses)
(rubber, coatings, colorant microsphere dispersions for)

RN 32650-26-3 CAPLUS

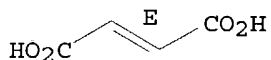
CN 2-Butenedioic acid (2E)-, polymer with chloroethene and ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 110-17-8

CMF C4 H4 O4

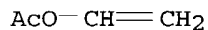
Double bond geometry as shown.



CM 2

CRN 108-05-4

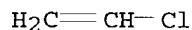
CMF C4 H6 O2



CM 3

CRN 75-01-4

CMF C2 H3 Cl



- IC ICM C08L101-00
- ICS C08K009-04
- ICA C09D007-12
- CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 42, 77
- ST colorant cyanine microsphere dispersion stability; antistatic coating
cyanine colorant microsphere; video tape colorant microsphere dispersant;
thermal transfer ink ribbon colorant
- IT Urethane polymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, colorant microsphere dispersions for)
- IT **Pigments**
(microspheres, stable dispersions of, for coatings and inks)
- IT Carbon black, uses
RL: USES (Uses)
(**pigments**, microspheres containing, stable dispersions of, for
coatings and inks)
- IT Alkenes, uses
RL: USES (Uses)
(C20-28 α -, in manufacture of colorant microsphere dispersions, for
coatings and inks)
- IT Coating materials
(abrasion-resistant, colorant microsphere dispersions for,
storage-stable)
- IT Coating materials
(antistatic, colorant microsphere dispersions for, storage-stable)
- IT Antistatic agents
(coatings, colorant microsphere dispersions for, storage-stable)
- IT Inks
(lithog., colorant microsphere dispersions for, storage-stable)
- IT Recording apparatus
(magnetic tapes, video, coatings for, antistatic, colorant microsphere
dispersions for)
- IT Rubber, synthetic
RL: TEM (Technical or engineered material use); USES (Uses)
(**maleic** acid-vinyl acetate-vinyl chloride, coatings, colorant
microsphere dispersions for)
- IT Urethane polymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyester-, coatings, for video tapes and thermal-transfer ink
ribbons, colorant microsphere dispersions for)
- IT Printer ribbons
(thermal-transfer, colorant microsphere dispersions for,
storage-stable)
- IT 124350-24-9
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, colorant microsphere dispersions for)
- IT 31075-20-4, Adipic acid-1,6-hexanediol-MDI copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, for video tapes and thermal-transfer ink ribbons, colorants
for)

- IT 75-36-5D, Acetyl chloride, reaction products with unsatd. compds. and benzylidenealkylamines 1077-18-5D, reaction products with butadiene-styrene copolymer and acetyl chloride 3452-07-1D, 1-Eicosene, reaction products with benzylideneoctylamine and acetyl chloride 4641-57-0D, N-Phenyl-2-pyrrolidone, reaction products with butadiene-styrene copolymer 6282-02-6D, N-Hydroxymethylbenzamide, reaction products with α -olefins 9003-55-8D, 1,3-Butadiene-styrene copolymer, reaction products with phenylpyrrolidone 9003-70-7, Divinylbenzene-styrene copolymer 9046-16-6, Acrylonitrile-butyl acrylate-divinylbenzene-styrene copolymer 20172-40-1D, Benzylideneoctylamine, reaction products with eicosene and acetyl chloride 25767-47-9, Butyl acrylate-styrene copolymer 60806-47-5, Butyl acrylate-divinylbenzene-styrene copolymer 106107-54-4D, Butadiene-styrene block copolymer, reaction products with benzylidenebutylamine and acetyl chloride 149723-97-7
RL: USES (Uses)
(in manufacture of colorant microsphere dispersions, for coatings and inks)
- IT 147-14-8, Phthalocyanine blue 1309-37-1, Red iron oxide, uses
RL: USES (Uses)
(**pigments**, microspheres, stable dispersions containing, for coatings and inks)
- IT 32650-26-3
RL: USES (Uses)
(rubber, coatings, colorant microsphere dispersions for)

L59 ANSWER 20 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1993:214981 CAPLUS
DOCUMENT NUMBER: 118:214981
TITLE: Micro composite systems and their preparation
INVENTOR(S): Hoy, Kenneth L.; Glancy, Charles W.; Lewis, Jeffrey M. O.
PATENT ASSIGNEE(S): Union Carbide Corp., USA
SOURCE: U.S., 20 pp. Cont.-in-part of U.S. Ser. No. 109,326, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 5171772	A	19921215	US 1989-319415	19890306
NO 8901544	A	19900907	NO 1989-1544	19890414
FI 8901796	A	19900907	FI 1989-1796	19890414
IL 89965	A1	19930131	IL 1989-89965	19890414
AU 9230057	A1	19930311	AU 1992-30057	19921211
PRIORITY APPLN. INFO.:			US 1987-109326	19871019
			US 1989-319415	19890306

- AB A coating of hydrophobic polymer (e.g., on **pigments**, for stable **aqueous** dispersions) is prepared by contacting the substrate with **aqueous** media containing an amphiphilic polymer and polymerizing polymerizable components (to form ≥ 1 hydrophobic polymer); a polyoxyethylene-based nonionic surfactant is present. The dispersions are stable and give improved hiding power compared to films from dispersions made without the

associative thickener, i.e., a polymer of number-average mol. weight $\geq 10,000$ and having a hydrophilic backbone and ≥ 1 pendant hydrophobic group connected to the hydrophilic backbone. In an example, TiO_2 is coated.

IT 84861-25-6, Butyl acrylate-maleic acid-vinyl acetate copolymer

RL: USES (Uses)

(titania coated by, for pigments for coatings)

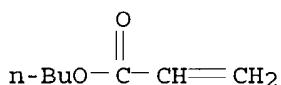
RN 84861-25-6 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with butyl 2-propenoate and ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 141-32-2

CMF C7 H12 O2

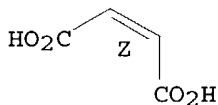


CM 2

CRN 110-16-7

CMF C4 H4 O4

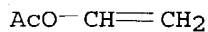
Double bond geometry as shown.



CM 3

CRN 108-05-4

CMF C4 H6 O2



IC ICM C08J003-03

NCL 524457000

CC 42-6 (Coatings, Inks, and Related Products)

Section cross-reference(s): 37

ST pigment coating hydrophobic; amphiphilic polymer thickener encapsulation titania

IT Thickening agents

(amphiphilic polymers, in coating of pigment particulate with hydrophobic polymer)

IT Encapsulation
(of **pigment** particulate with polymer, amphiphilic polymer thickener and nonionic surfactant for)

IT **Pigments**
(particulates, coating of, with hydrophobic polymer)

IT 67017-23-6, A.D.I
RL: USES (Uses)
(dispersant, in coating of **pigments** with hydrophobic polymer)

IT 9016-45-9, Igepal CO 997
RL: USES (Uses)
(in coating of **pigment** particulate with hydrophobic polymer)

IT 13463-67-7, Titania, uses
RL: USES (Uses)
(**pigments**, coating of, with hydrophobic polymer)

IT 132512-02-8
RL: USES (Uses)
(thickener, in coating of **pigments** with hydrophobic polymer)

IT 9004-62-0 117989-67-0, Natrosol Plus
RL: USES (Uses)
(thickener, in coating titania particulate with hydrophobic polymer)

IT 25067-01-0, Butyl acrylate-vinyl acetate copolymer 27901-80-0
84861-25-6, Butyl acrylate-**maleic** acid-vinyl acetate copolymer
RL: USES (Uses)
(titania coated by, for **pigments** for coatings)

IT 132512-24-4, DB 40 147516-21-0, DB 100x 147557-13-9, BNP
RL: USES (Uses)
(titania **pigment** grind containing, for coating with hydrophobic polymer)

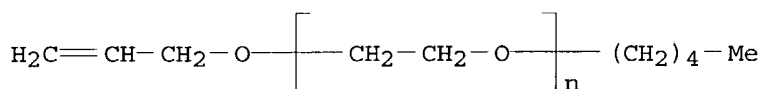
L59 ANSWER 21 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1992:410024 CAPLUS
DOCUMENT NUMBER: 117:10024
TITLE: Water-thinned inks for ball point pens
INVENTOR(S): Okumura, Shigeru
PATENT ASSIGNEE(S): Mitsubishi Pencil Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04013783	A2	19920117	JP 1990-115146	19900502
PRIORITY APPLN. INFO.:			JP 1990-115146	19900502

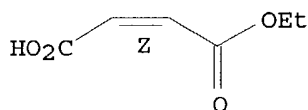
AB The title inks, showing good storage stability and smooth writing, contain **pigments** 2-30, compds. [CX[CH₂O(AO)_nR]CH₂CH(CO₂Y)CH(CO₂Z)]_k (X = H, Me; Y, Z = H, alkali metal, ammonium, alkyl; A = C₂-3 alkylene; R = C₁-18 alkyl; n = 1-50; k = 2-500) 0.05-30.0, and water-soluble solvents 10-40%. An ink contained MA 100 (carbon) 10.0, Demol N 5.0, polyoxyethylene monoallyl monopentyl ether-**maleic** acid mono-Et ester copolymer 0.7, H₂O 54.0, ethylene glycol 25.0, glycerol 5.0, Proxel BD 0.2, and benzotriazole 0.1%.

IT 141607-89-8
 RL: USES (Uses)
 (inks containing, **aqueous**, stable, for ball point pens)
 RN 141607-89-8 CAPLUS
 CN 2-Butenedioic acid (2Z)-, monoethyl ester, polymer with
 α -pentyl- ω -(2-propenyloxy)poly(oxy-1,2-ethanediyl) (9CI) (CA
 INDEX NAME)
 CM 1
 CRN 141607-88-7
 CMF (C2 H4 O)_n C8 H16 O
 CCI PMS



CM 2
 CRN 3990-03-2
 CMF C6 H8 O4

Double bond geometry as shown.



IC ICM C09D011-18
 ICS C09D011-10
 CC 42-12 (Coatings, Inks, and Related Products)
 ST ball point ink stability smoothness; pen ball point ink smoothness;
 polyoxyalkylene deriv ink ball point; **maleic** copolymer ink ball
 point
 IT Pens
 (ball point, inks for, polyoxyalkylene derivative-**maleic**
 monoester copolymer-containing)
 IT Inks
 (writing, water-thinned, containing polyoxyalkylene derivative-**maleic**
 monoester copolymers, for ball point pens)
 IT 141607-89-8 141954-43-0
 RL: USES (Uses)
 (inks containing, **aqueous**, stable, for ball point pens)

L59 ANSWER 22 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1992:108524 CAPLUS
 DOCUMENT NUMBER: 116:108524
 TITLE: Water-based **pigmented** ink compositions for
 writing

INVENTOR(S): Arata, Satoru
 PATENT ASSIGNEE(S): Mikuni Shikiso K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03255182	A2	19911114	JP 1990-55874	19900306

PRIORITY APPLN. INFO.: JP 1990-55874 19900306

AB The title compns., having good storage stability and resistance to light, water, etc., contain **pigments**, drying inhibitors, and dispersing agents comprising alkali-neutralized copolymers of 50-95 mol % hydrophobic monomers and 5-50 mol % **maleic** anhydride (I) and/or acid. A mixture of 10:2:8 (mol) I-Me acrylate-styrene copolymer ammonium salt, carbon black, ethylene glycol, H₂O, and urea was prepared, freed of large **pigment** particles, and used in a felt tip pen which showed writing life at 50° >12 mo, vs. 3 without urea.

IT **139439-74-0**
 RL: USES (Uses)
 (dispersing agents, for **pigments** in **aqueous** writing inks)

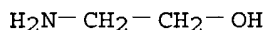
RN 139439-74-0 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with butyl 2-propenoate and methyl 2-methyl-2-propenoate, compd. with 2-aminoethanol (9CI) (CA INDEX NAME)

CM 1

CRN 141-43-5

CMF C2 H7 N O



CM 2

CRN 88732-53-0

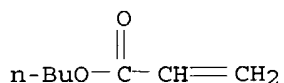
CMF (C7 H12 O2 . C5 H8 O2 . C4 H4 O4)x

CCI PMS

CM 3

CRN 141-32-2

CMF C7 H12 O2

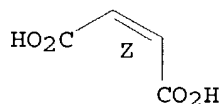


CM 4

CRN 110-16-7

CMF C4 H4 O4

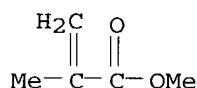
Double bond geometry as shown.



CM 5

CRN 80-62-6

CMF C5 H8 O2



- IC ICM C09D011-16
- ICS C09D011-16
- CC 42-12 (Coatings, Inks, and Related Products)
- ST ink **pigment** dispersant **maleic** copolymer; carbon black **pigment** dispersant ink; urea dispersion **pigment** ink; felt pen ink storage stability
- IT Dispersing agents
(**maleic** copolymers, for **pigments** in **aqueous** writing inks)
- IT Carbon black, uses
RL: USES (Uses)
(**pigments**, in **aqueous** writing inks, dispersants for)
- IT Inks
(writing, water-thinned, **pigment** dispersants in, **maleic** copolymers as)
- IT 112902-88-2, **Maleic** anhydride-methyl acrylate-styrene copolymer ammonium salt **139439-74-0** 139439-76-2
RL: USES (Uses)
(dispersing agents, for **pigments** in **aqueous** writing inks)
- IT 57-13-6, Urea, uses 62-56-6, Thiourea, uses
RL: USES (Uses)
(drying inhibitors, in **aqueous** writing inks)
- IT 147-14-8, Phthalocyanine Blue 6448-95-9, Naphthol Red
RL: USES (Uses)
(**pigments**, in **aqueous** inks, dispersants for)

ACCESSION NUMBER: 1991:230759 CAPLUS
 DOCUMENT NUMBER: 114:230759
 TITLE: Increasing encapsulation efficiency in coating of particles in **aqueous** dispersions
 INVENTOR(S): Smith, Oliver W.; Hoy, Kenneth L.
 PATENT ASSIGNEE(S): Union Carbide Chemicals and Plastics Co., Inc., USA
 SOURCE: U.S., 14 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4981882	A	19910101	US 1989-331305	19890331

PRIORITY APPLN. INFO.: US 1989-331305 19890331

AB In the title process, **aqueous** dispersions containing basic dispersants and fine particles (adsorbing hydrophilic polymers in the absence of dispersants) are mixed with the acids $R_2CH:C(R_1)CO_2H$ [$R_1 = CHR_3(CH_2)_x$, $R_2, R_3 = H, CO_2R_4, CH_2CO_2R_4$, alkyl, aryl, alkaryl, $R_4 = H$, alkyl (R_2 and R_3 are not both H); $x = 0-4$] and amphiphilic compds. for increased dispersion stability before polymerization. Thus, stirring an **aqueous** mixture of TiO_2 and Tamol SGI (anionic surfactant) with **maleic** acid, Igepal CO990 (nonionic surfactant), vinyl acetate, a peroxide, Bu acrylate and $HOCH_2SO_2Na$ at 65° gave encapsulated TiO_2 (95% efficiency) with a high scattering coefficient.

IT **84861-25-6**, Butyl acrylate-**maleic** acid-vinyl acetate copolymer

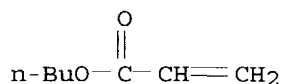
RL: USES (Uses)
(coating of, on **aqueous** titanium dioxide dispersions with high efficiency)

RN 84861-25-6 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with butyl 2-propenoate and ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

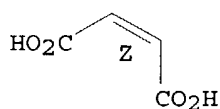
CRN 141-32-2
CMF C7 H12 O2



CM 2

CRN 110-16-7
CMF C4 H4 O4

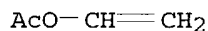
Double bond geometry as shown.



CM 3

CRN 108-05-4

CMF C4 H6 O2



IC ICM C08K009-04

ICS C08K003-24; C08J003-02

NCL 523205000

CC 42-6 (Coatings, Inks, and Related Products)

Section cross-reference(s): 46

ST titanium dioxide coating polymer; **maleic** acid copolymer coating; vinyl acetate copolymer coating; acrylate copolymer coating titania; particle coating **aq** dispersion; surfactant coating particle **aq**

IT Surfactants

(basic, **pigment** coating in **aqueous** dispersion in presence of)

IT **Pigments**

(coating of, in **aqueous** dispersions with high efficiency)

IT Coating process

(of **pigments** in **aqueous** dispersion, in presence of surfactants for increased efficiency)

IT Surfactants

(amphiphilic, **pigment** coating in **aqueous** dispersion in presence of)

IT 13463-67-7, Titanium oxide (TiO₂), uses and miscellaneous
RL: USES (Uses)

(coating of, in **aqueous** dispersions with high efficiency)

IT 29300-54-7, Butyl acrylate-methacrylic acid-vinyl acetate copolymer
35724-67-5, Butyl acrylate-**maleic** anhydride-vinyl acetate copolymer **84861-25-6**, Butyl acrylate-**maleic** acid-vinyl acetate copolymer

RL: USES (Uses)

(coating of, on **aqueous** titanium dioxide dispersions with high efficiency)

IT 9016-45-9, Tergitol NP40 67017-23-6, Tamol SG 1

RL: USES (Uses)

(**pigment** coating in **aqueous** dispersion in presence of)

L59 ANSWER 24 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:614145 CAPLUS

DOCUMENT NUMBER: 113:214145

TITLE: Unsaturated acid-based polymer dispersants for **pigments** and their paper coatings

INVENTOR(S): Tawara, Hideyuki; Ito, Hiroshi; Sano, Sadanori
 PATENT ASSIGNEE(S): Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02139496	A2	19900529	JP 1988-288760	19881117

PRIORITY APPLN. INFO.: JP 1988-288760 19881117

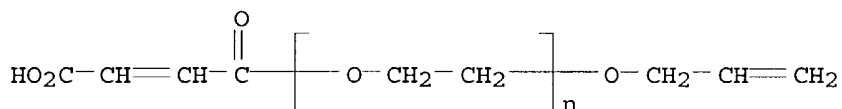
AB The title dispersants, useful to improve the rheol. of coating compns., are prepared by modifying the unsatd. copolymers [from 10-100% **maleic** and (anhydride), fumaric acid, and/or itaconic acid (anhydride) and 0-90% other momers] with ≥ 0.1 mol (based on 1 mol CO₂H) C₂-4 alkyleneimines and optionally C₂-4 alkylene oxides to form **aqueous**-sol polymers (A), or by the reaction of the A and acidic compds., quaternary compd-forming agents, unsatd. acid (amides), and/or unsatd. nitriles. Thus, 95.1 parts a 29:71 mol **maleic** anhydride-ethylene copolymer (number-average mol. weight 21.000) was dissolved with

403.2 parts water at 80° for 2 h, combined with 39.3 parts ethyleneimine over 1 h at 40°, and heated 2 h at 90° to give an aminoethylated polymer (B). A water-based white carbon (I) **pigmented** coating composition containing 2.0% (based on I) B showed viscosity (25°) 350 cP, initially and 360 cP after 3 day.

IT **75836-16-7DP**, aminoalkylated, reaction products with alkylene oxides and/or unsatd. compds.
 RL: PREP (Preparation)
 (dispersants, manufacture of, for **pigments** for paper coating)

RN 75836-16-7 CAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[(2Z)-3-carboxy-1-oxo-2-propenyl]- ω -(2-propenyloxy)- (9CI) (CA INDEX NAME)



IC ICM D21H017-55
 ICS C08F008-30

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
 Section cross-reference(s): 42, 46

ST **pigment** dispersant paper coating; **maleic** anhydride copolymer aminoethylated dispersant; ethylene copolymer aminoalkylated dispersant; aziridine adduct copolymer dispersant

IT Dispersing agents
 (aminoalkylated **maleic** anhydride polymer (derivs.), manufacture of, for paper coatings)

IT **Pigments**
 (dispersants for, aminoalkylated **maleic** anhydride polymer)

(derivs.) as, manufacture of, for paper coatings)

IT Paper

(pigment dispersants for coatings for, manufacture of)

IT 75-21-8DP, Ethylene oxide, reaction products with aminoalkylated **maleic** anhydride polymers 75-55-8DP, reaction products with **maleic** anhydride polymers and/or alkylene oxides 79-06-1DP, Acrylamide, reaction products with aminoalkylated **maleic** anhydride polymers 79-10-7DP, Acrylic acid, salts with aminoalkylated **maleic** anhydride polymers 79-11-8DP, Chloroacetic acid, salts with aminoalkylated **maleic** anhydride polymers 85-44-9DP, Phthalic anhydride, salts with aminoalkylated **maleic** anhydride polymers 107-13-1DP, Acrylonitrile, reaction products with aminoalkylated **maleic** anhydride polymers 108-31-6DP, **Maleic** anhydride, salts with aminoalkylated **maleic** anhydride polymers 151-56-4DP, Ethyleneimine, reaction products with **maleic** anhydride polymers 9006-26-2DP, aminoalkylated, reaction products with alkylene oxides and/or unsatd. compds. 9011-07-8DP, **Maleic** anhydride-vinyl acetate copolymer, aminoalkylated, reaction products with alkylene oxides and/or unsatd. compds. 9011-13-6DP, **Maleic** anhydride-Styrene copolymer, aminoalkylated, reaction products with alkylene oxides and/or unsatd. compds. **75836-16-7DP**, aminoalkylated, reaction products with alkylene oxides and/or unsatd. compds. 77110-41-9DP, aminoalkylated, reaction products with alkylene oxides and/or unsatd. compds.

RL: PREP (Preparation)

(dispersants, manufacture of, for **pigments** for paper coating)

L59 ANSWER 25 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:141665 CAPLUS

DOCUMENT NUMBER: 112:141665

TITLE: **Pigment** dispersants for paper coatings

INVENTOR(S): Fuse, Shosaku; Tomihara, Kenichi; Shimizu, Ken; Ishigami, Yutaka; Suzuki, Shigeru; Takeuchi, Kyoichi

PATENT ASSIGNEE(S): Toho Chemical Industry Co., Ltd., Japan; Agency of Industrial Sciences and Technology; Tokyo Pearl Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

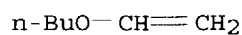
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01250497	A2	19891005	JP 1988-75896	19880331
PRIORITY APPLN. INFO.:			JP 1988-75896	19880331

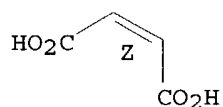
AB Title dispersants comprise alkyl vinyl ether-maleate copolymers $[\text{CH}(\text{OR})\text{CH}_2\text{CH}(\text{CO}_2\text{X})\text{CH}(\text{CO}_2\text{Y})]_n$ (R = C4-8 alkyl; X, Y = alkali metal, NH_4 , C2-4 alkyl; n = 3-60). A copolymer was prepared from 93.6 parts isooctyl vinyl ether and 103.3 parts di-Et maleate at 145° in the presence of AIBN and partially (72%) saponified with **aqueous** NaOH to prepare a dispersant which was added (0.1%) to a 40:60 H₂O-CaCO₃ slurry. The slurry had viscosity 20 cP initially and 23 cP after 7 days, vs. 200 and 220, resp., with poly(Na acrylate) as the dispersant.

IT 38193-45-2, Butyl vinyl ether-maleic acid copolymer
 83159-66-4
 RL: USES (Uses)
 (pigment dispersants, in paper coatings)
 RN 38193-45-2 CAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with 1-(ethenyloxy)butane (9CI) (CA
 INDEX NAME)
 CM 1
 CRN 111-34-2
 CMF C6 H12 O

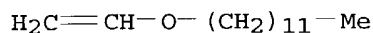


CM 2
 CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.

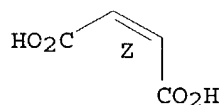


RN 83159-66-4 CAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with 1-(ethenyloxy)dodecane, sodium salt
 (9CI) (CA INDEX NAME)
 CM 1
 CRN 55879-35-1
 CMF (C14 H28 O . C4 H4 O4)x
 CCI PMS
 CM 2
 CRN 765-14-0
 CMF C14 H28 O



CM 3
 CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



IC ICM D21H001-34
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
 Section cross-reference(s): 35, 42
 ST **pigment** dispersant paper coating; vinyloxyalkane copolymer
 dispersant **pigment**; carboxy polymer dispersant **pigment**
 ; maleate copolymer dispersant **pigment**; calcium carbonate
 dispersant coating
 IT Paper
 (coatings for, **pigment** dispersants in)
 IT Clays, uses and miscellaneous
 RL: USES (Uses)
 (**pigments**, in paper coatings, dispersants for)
 IT Dispersing agents
 (vinyl ether-maleate copolymers, for **pigments**, in paper
 coatings)
 IT **38193-45-2**, Butyl vinyl ether-maleic acid copolymer
 65506-42-5D, Butyl vinyl ether-diethyl maleate copolymer, partially
 saponified 80482-23-1D, partially saponified **83159-66-4**
 RL: USES (Uses)
 (**pigment** dispersants, in paper coatings)
 IT 471-34-1, Calcium carbonate, uses and miscellaneous
 RL: USES (Uses)
 (**pigments**, in paper coatings, dispersants for)

L59 ANSWER 26 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1989:616030 CAPLUS
 DOCUMENT NUMBER: 111:216030
 TITLE: Dispersion of inorganic **pigments** such as
 calcium carbonate and aluminum hydroxide in water by
 use of mixed polymer dispersants
 INVENTOR(S): Shioji, Shobu; Sasabe, Masazumi; Dairoku, Yorimichi;
 Fujiwara, Teruaki
 PATENT ASSIGNEE(S): Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan
 SOURCE: U.S., 20 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 6
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4818783	A	19890404	US 1987-118311	19871106
JP 01028215	A2	19890130	JP 1987-263678	19871021
JP 04053813	B4	19920827		
AU 8780944	A1	19880512	AU 1987-80944	19871106

AU 596458	B2	19900503		
CA 1312987	A1	19930119	CA 1987-551595	19871112
US 4892902	A	19900109	US 1989-328687	19890327

PRIORITY APPLN. INFO.:

	JP 1986-263843	19861107
	JP 1986-269775	19861114
	JP 1986-271964	19861117
	JP 1986-276451	19861121
	JP 1986-276452	19861121
	JP 1987-88704	19870413
	US 1987-118311	19871106

AB Mixts. containing (a) 0.1-2 parts water-soluble, carboxy group-containing polymers
with number-average mol. weight (Mn) 2000-80,000 and (b) 0.03-1 part water-soluble,
anionic modified poly(vinyl alc.) with d.p. 30-700, saponification degree 30-100
mol%, and anionic modification degree 0.5-20 mol% are useful for dispersing 100 parts of the title **pigments** in water, producing low-viscosity, high-flowing dispersions. A 65.3% solids CaCO₃ cake 400, 40% **aqueous** poly(Na acrylate) (Mn 6000) solution 3.26, 20% **aq** . 3:97 (mol ratio) p-styrenesulfonic acid-vinyl alc. copolymer Na salt (d.p. 250, saponification degree 88 mol%) solution 2.61, and water 5.1 parts were
kneaded 3 min at low speed and then stirred 10 min at 3000 rpm to give a 64% solids dispersion with viscosity 85 and 82 cP before and after 1 wk storage, resp.

IT 123714-12-5, Dodecyl acrylate-isobutylene-**maleic** acid copolymer sodium salt
RL: USES (Uses)
(dispersants containing, for calcium carbonate or aluminum hydroxide **pigments** in water)

RN 123714-12-5 CAPLUS

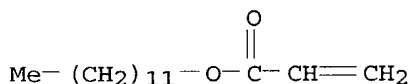
CN 2-Butenedioic acid (2Z)-, polymer with dodecyl 2-propenoate and 2-methyl-1-propene, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 123714-11-4
CMF (C15 H28 O2 . C4 H8 . C4 H4 O4)x
CCI PMS

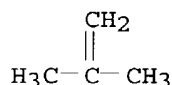
CM 2

CRN 2156-97-0
CMF C15 H28 O2



CM 3

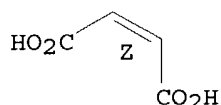
CRN 115-11-7
CMF C4 H8



CM 4

CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



IC ICM C08L029-04
NCL 524425000
CC 42-6 (Coatings, Inks, and Related Products)
ST calcium carbonate **pigment** dispersant; aluminum hydroxide **pigment** dispersant; polysodium acrylate dispersant **pigment**; polyvinyl alc anionic dispersant **pigment**; sodium styrenesulfonate copolymer dispersant **pigment**
IT Dispersing agents
(carboxylic group-containing polymer salts and anionic-modified poly(vinyl alc.), for aluminum hydroxide and calcium carbonate **pigments** in water)
IT **Pigments**
(dispersants for, carboxylic group-containing polymer salts and anionic-modified poly(vinyl alc.) as, in water)
IT 25549-84-2, Poly(sodium acrylate)
RL: USES (Uses)
(dispersants containing, for calcium carbonate or aluminum hydroxide in water)
IT 24980-58-3D, saponified, potassium salt 26099-88-7, Acrylic acid-itaconic acid copolymer sodium salt 26997-25-1D, saponified, sodium salt 28205-96-1, Acrylic acid-methacrylic acid copolymer sodium salt 30915-64-1, Isobutylene-**maleic** acid copolymer sodium salt 33940-82-8 34229-80-6, **Maleic** acid-vinyl alcohol copolymer 43158-52-7D, saponified, sodium salt 52255-48-8, Acrylic acid-N-methylolacrylamide copolymer sodium salt 52880-56-5, Acrylic acid-methacrylic acid copolymer potassium salt 53202-38-3, **Maleic** acid-propylene copolymer sodium salt 54193-36-1, Poly(methacrylic acid) sodium salt 60472-42-6 63727-29-7, Acrylic acid-fumaric acid copolymer sodium salt 69506-52-1, Isobutylene-**maleic** acid copolymer ammonium salt 70279-73-1, Acrylic acid-2-hydroxyethyl methacrylate copolymer sodium salt 77019-70-6, 2-Acrylamido-2-methylpropanesulfonic acid-methacrylic acid copolymer

sodium salt 77019-71-7, 2-Acrylamido-2-methylpropanesulfonic acid-acrylic acid copolymer sodium salt 79020-07-8D, saponified 92046-41-8, Acrylic acid-vinylsulfonic acid copolymer sodium salt 95907-84-9D, saponified, sodium salt 105062-72-4, Acrylic acid-3-allyloxy-2-hydroxypropanesulfonic acid copolymer sodium salt 120127-45-9, Methacrylic acid-fumaric acid copolymer potassium salt 120127-47-1, 2-Propenesulfonic acid-vinyl alcohol copolymer 120127-48-2, 2-Propenesulfonic acid-vinyl alcohol copolymer sodium salt 120127-51-7, Acrylic acid-3-methyl-3-buten-1-ol copolymer sodium salt 120146-02-3, Acrylic acid-vinylsulfonic acid copolymer potassium salt 123714-05-6, Acrylic acid-N-methylolacrylamide copolymer potassium salt 123714-06-7, **Maleic** acid-propylene copolymer calcium salt 123714-08-9, 1-Butene-**maleic** acid copolymer potassium salt 123714-10-3, α -Isoamylene-isobutylene- **maleic** acid copolymer sodium salt 123714-12-5, Dodecyl acrylate-isobutylene-**maleic** acid copolymer sodium salt

RL: USES (Uses)

(dispersants containing, for calcium carbonate or aluminum hydroxide **pigments** in water)

IT 471-34-1, Carbonic acid calcium salt (1:1), uses and miscellaneous 21645-51-2, Aluminum hydroxide, uses and miscellaneous

RL: USES (Uses)

(**pigments**, dispersants for, carboxy group-containing polymer salts and anionic-modified poly(vinyl alc.) as)

L59 ANSWER 27 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1988:633009 CAPLUS

DOCUMENT NUMBER: 109:233009

TITLE: Paper coating compositions containing coatability improvers

INVENTOR(S): Yoshikawa, Yoshihiko; Nishiura, Osamu; Ikeda, Takeshi; Kondo, Kaoru; Sonobe, Hiroshi

PATENT ASSIGNEE(S): DIC Hercules, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

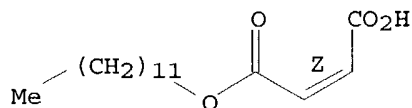
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63120196	A2	19880524	JP 1986-264902	19861108
PRIORITY APPLN. INFO.:			JP 1986-264902	19861108

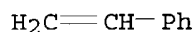
AB Title compns. useful in high-speed coating using gate roll coater and providing coated products with improved printability contain 70-20:30-80 copolymers of compds. containing acid groups or salts and hydrophobic monomers. Thus, emulsion polymerizing 62.4 parts styrene and 34.4 parts acrylic acid in the presence of Na dodecylbenzenesulfonate 3, (NH₄)₂S₂O₈ 2.3 and dodecylmercaptan 2 parts in water gave a polymer solution which was neutralized with 28% **aqueous** NH₃ and 48.5% **aqueous** NaOH to prepare a 20%-solids dispersion. Mixing Ultra White 90 (**pigment**) 60, Carbital 90 (**pigment**) 40, SBR latex 12, starch phosphate 8, dispersant 0.4, and the above dispersion 0.5 (as solids) part and coating on paper gave good appearance, gravure printability, ink receptivity, and

pick strength.
 IT 117827-68-6D, salts
 RL: USES (Uses)
 (coatability improvers, for **pigment** coatings for paper, with
 good printability)
 RN 117827-68-6 CAPLUS
 CN 2-Butenedioic acid (2Z)-, monododecyl ester, polymer with butyl
 2-methyl-2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)
 CM 1
 CRN 2424-61-5
 CMF C16 H28 O4

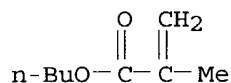
Double bond geometry as shown.



CM 2
 CRN 100-42-5
 CMF C8 H8



CM 3
 CRN 97-88-1
 CMF C8 H14 O2



IC ICM D21H001-34
 ICS C09D003-49
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
 ST printability improved coating acrylate polymer; ink receptivity coating
 acrylate polymer; coating paper acrylate polymer; coatability improved
 styrene polymer coating
 IT Coating materials
 (for paper, coatability improvers for)
 IT Paper
 (printed, **pigment** coatings for, acrylic coatability improvers
 for)

IT 9010-92-8D, Methacrylic acid-styrene copolymer, salts 34229-21-5D,
Diisobutylene-**maleic** anhydride copolymer, salts
117827-68-6D, salts 117857-30-4D, salts 117857-31-5D, salts
117857-32-6D, salts

RL: USES (Uses)

(coatability improvers, for **pigment** coatings for paper, with
good printability)

L59 ANSWER 28 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1987:600508 CAPLUS

DOCUMENT NUMBER: 107:200508

TITLE: Oligomeric dispersants for water-based
pigments

INVENTOR(S): Suzuki, Shigeru; Ishigami, Yutaka

PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62079204	A2	19870411	JP 1985-220608	19851003
JP 04055629	B4	19920903		

PRIORITY APPLN. INFO.: JP 1985-220608 19851003

AB The title dispersants are prepared by treating alternating **maleic**
acid (I)-alkyl vinyl ether oligomers with alkanolamines to form
(hydroxyalkyl)amide groups. Stirring 6 parts alternating Me vinyl ether-I
oligomer and 15 parts ethanolamine for 10 min at 155-160° gave 8
parts (hydroxyethyl)amide-containing oligomer (II). II Na salt lowered the
surface tension of dispersions of phthalocyanine blue, carbon black, and
α-Fe₂O₃ by 17, 46, and 97, resp.; vs. 66, 45, and 42, resp., for
Aerosol OT.

IT **111263-14-0D**, Dodecyl vinyl ether-**maleic** acid
alternating copolymer, ethanolamide derivs.

RL: USES (Uses)

(oligomeric, dispersants for **aqueous pigments**)

RN 111263-14-0 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with 1-(ethenyloxy)dodecane, alternating
(9CI) (CA INDEX NAME)

CM 1

CRN 765-14-0

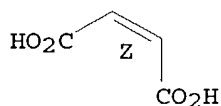
CMF C14 H28 O

H₂C=CH-O-(CH₂)₁₁-Me

CM 2

CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



IC ICM C08F008-32
ICS C08L035-08; C09D017-00
CC 42-6 (Coatings, Inks, and Related Products)
Section cross-reference(s): 46
ST dispersant oligomer **pigment aq**; **maleic acid**
copolymer dispersant; vinyl ether copolymer dispersant; ethanolamine amide
oligomeric dispersant
IT **Pigments**
(dispersants for **aqueous**, **maleic acid**-vinyl ether
alternating oligomer alkanolamide derivs. as)
IT Dispersing agents
(**maleic acid**-vinyl ether alternating oligomer alkanolamide
derivs., for **aqueous pigments**)
IT 141-43-5D, reaction products with **maleic acid** copolymers
111263-13-9D, **Maleic acid**-methyl vinyl ether alternating
copolymer, ethanolamide derivs. 111263-14-0D, Dodecyl vinyl
ether-**maleic acid** alternating copolymer, ethanolamide derivs.
RL: USES (Uses)
(oligomeric, dispersants for **aqueous pigments**)

L59 ANSWER 29 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:592918 CAPLUS
DOCUMENT NUMBER: 105:192918
TITLE: Calcium carbonate fillers
INVENTOR(S): Motoyoshi, Shiro; Saito, Tadashi; Azuma, Toshio;
Ebisuya, Noritsugu
PATENT ASSIGNEE(S): Maruo Calcium Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61069873	A2	19860410	JP 1984-193576	19840914
JP 05025911	B4	19930414		

PRIORITY APPLN. INFO.: JP 1984-193576 19840914
AB Fillers, useful for coatings with good gloss and viscosity, contain 100
parts CaCO₃ and 0.01-10 parts Na, NH₄, and/or amine salts of copolymers
(adsorbed on CaCO₃) obtained from 90-100% mixts. containing (meth)acrylic
and(or) crotonic acids 100, itaconic, **maleic**, and(or) fumaric
acids 1-100, acrylic compds., vinyl compds., conjugated dienes and(or)

(cyclo)olefins 5-300 parts, and 0-10% ≥ 1 other polymerizable monomer. Thus, 1.20 parts 100:30:25:5 acrylic acid (I)-cyclohexyl methacrylate (II)-maleic acid-styrenesulfonic acid copolymer Na salt (weight-average mol. weight 15,000) was adsorbed on 100 parts CaCO_3 (average particle size 0.07μ , sp. surface area $30 \text{ m}^2/\text{g}$) in an aqueous medium to give a filler. A composition containing this filler 65, dispersants 10, propylene glycol 50, TiO_2 194, water 52, Mill Base pigment 186, Voncoat 222, and Butyl Cellosolve 35 parts exhibited higher viscosity and provided a film with better gloss than a similar composition without I or II in the polymer adsorbed on CaCO_3 .

IT 105111-52-2 105111-56-6 105111-59-9
 RL: USES (Uses)
 (calcium carbonate treated with, for fillers for coatings)
 RN 105111-52-2 CAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with methyl 2-propenoate and 2-propenoic acid, ammonium salt (9CI) (CA INDEX NAME)

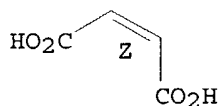
CM 1

CRN 89697-71-2
 CMF (C4 H6 O2 . C4 H4 O4 . C3 H4 O2)x
 CCI PMS

CM 2

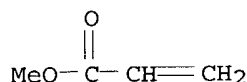
CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



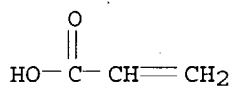
CM 3

CRN 96-33-3
 CMF C4 H6 O2



CM 4

CRN 79-10-7
 CMF C3 H4 O2



RN 105111-56-6 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with 2-butenic acid and 2-hydroxyethyl 2-propenoate, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 105111-55-5

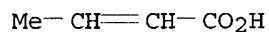
CMF (C5 H8 O3 . C4 H6 O2 . C4 H4 O4)x

CCI PMS

CM 2

CRN 3724-65-0

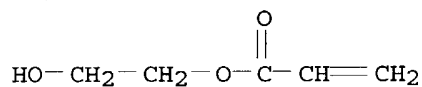
CMF C4 H6 O2



CM 3

CRN 818-61-1

CMF C5 H8 O3

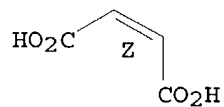


CM 4

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



RN 105111-59-9 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenyl acetate and 2-propenoic acid, ammonium salt (9CI) (CA INDEX NAME)

CM 1

CRN 50830-55-2

CMF (C4 H6 O2 . C4 H4 O4 . C3 H4 O2)x

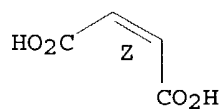
CCI PMS

CM 2

CRN 110-16-7

CMF C4 H4 O4

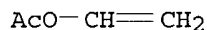
Double bond geometry as shown.



CM 3

CRN 108-05-4

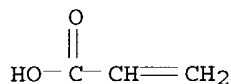
CMF C4 H6 O2



CM 4

CRN 79-10-7

CMF C3 H4 O2



IC ICM C09C001-02

ICS C08K009-04

ICA C08K009-12; C09D007-12

CC 42-5 (Coatings, Inks, and Related Products)

ST calcium carbonate filler coating; acrylic polymer treated filler coating; **maleic** copolymer treated filler coating; methacrylate copolymer treated filler coating; styrenesulfonic copolymer treated filler coating

IT Coating materials

(fillers for, acid polymer salt-treated calcium carbonate as)

IT 102082-96-2 104983-60-0 104983-61-1 104983-62-2 105063-37-4

105111-52-2 105111-54-4 **105111-56-6** 105111-58-8

105111-59-9 105111-61-3 105111-63-5

RL: USES (Uses)

(calcium carbonate treated with, for fillers for coatings)
 IT 71567-56-1
 RL: TEM (Technical or engineered material use); USES (Uses)
 (coatings, fillers for, acid polymer salt-treated calcium carbonate as)
 IT 471-34-1, uses and miscellaneous
 RL: USES (Uses)
 (fillers, acidic copolymer salt-treated, for coatings)

L59 ANSWER 30 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1986:169078 CAPLUS
 DOCUMENT NUMBER: 104:169078
 TITLE: **Maleic** acid salt copolymers
 INVENTOR(S): Fukumoto, Yasuhisa; Moriyama, Noboru
 PATENT ASSIGNEE(S): Kao Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60212410	A2	19851024	JP 1984-68563	19840406

PRIORITY APPLN. INFO.: JP 1984-68563 19840406

AB Monoalkali metal salts or monoammonium salts of **maleic** acid (100 mol) are polymd in water containing polymerization initiators at 80-180° with 5-27 mol monomers selected from (meth)acrylic acid, itaconic acid, acrylamide, 2-hydroxyethyl (meth)acrylate, styrenesulfonic acid, and vinylsulfonic acid to prepare copolymers having mol. weight 300-5000 and useful as scale inhibitors, **pigment** dispersing agents, and detergent builders.

IT 101855-96-3P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (manufacture of, in **aqueous** solns.)

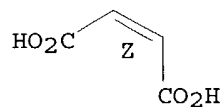
RN 101855-96-3 CAPLUS
 CN 2-Butenedioic acid (2Z)-, monosodium salt, polymer with 2-hydroxyethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 3105-55-3

CMF C4 H4 O4 . Na

Double bond geometry as shown.

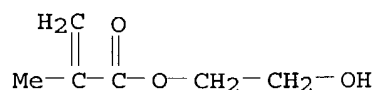


● Na

CM 2

CRN 868-77-9

CMF C6 H10 O3

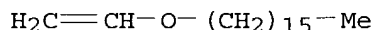


IC ICM C08F222-02
ICS C08F002-00
ICI C08F222-02, C08F220-28, C08F212-14, C08F220-06, C08F228-02
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 42, 46, 61
ST **maleic** acid salt copolymer; scale inhibitor maleate salt copolymer; detergent builder maleate salt copolymer; **pigment** dispersant maleate salt copolymer
IT Detergents
(builders for, **maleic** acid monosalt copolymers as)
IT **Pigments**
(dispersing agents for, **maleic** acid salt copolymers as)
IT Scale (coating)
(inhibitors for, **maleic** acid monosalt copolymers as)
IT Boiler scale
(inhibitors, **maleic** acid monosalt copolymers as)
IT Dispersing agents
(**maleic** acid salt copolymers, for **pigments**)
IT Polymerization
(of **maleic** acid monosalts and vinyl monomers, in water)
IT Vinyl compounds, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(polymerization of, with **maleic** acid monosalts, in water)
IT 61842-65-7P 95610-04-1P 101855-96-3P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, in **aqueous** solns.)

L59 ANSWER 31 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:111414 CAPLUS
DOCUMENT NUMBER: 104:111414
TITLE: Dispersibility of **pigments** in **aqueous** solutions of anionic oligosoaps. Synthesis of anionic oligosoaps having the carboxylic-hydroxyethylamide groups and their properties
AUTHOR(S): Suzuki, Shigeru; Ishigami, Yutaka
CORPORATE SOURCE: Natl. Chem. Lab. Ind., Tsukuba, Japan
SOURCE: Shikizai Kyokaishi (1985), 58(11), 633-9
CODEN: SKYQAO; ISSN: 0371-0777
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB **Maleic** acid-alkyl (C1, C12, C16) vinyl ether copolymer (I) were amidated with ethanolamine at 155-60° for 10 min and worked up to

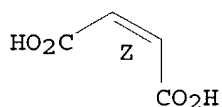
obtain oligosoaps having excellent surface tension-lowering ability and dispersibility for α -CuPc (Pc = phthalocyanine), carbon black, and α -Fe₂O₃. Effect of the alkyl chain length of I on its dispersing power was discussed.

IT 26935-44-4DP, reaction products with ethanolamine
 55879-35-1DP, reaction products with ethanolamine
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (dispersants, for pigments, preparation and properties of)
 RN 26935-44-4 CAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with 1-(ethenyloxy)hexadecane (9CI) (CA INDEX NAME)
 CM 1
 CRN 822-28-6
 CMF C18 H36 O

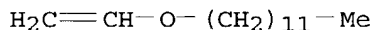


CM 2
 CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.

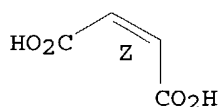


RN 55879-35-1 CAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with 1-(ethenyloxy)dodecane (9CI) (CA INDEX NAME)
 CM 1
 CRN 765-14-0
 CMF C14 H28 O



CM 2
 CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



CC 42-6 (Coatings, Inks, and Related Products)

ST surfactant amidated **maleic** acid copolymer; dispersant amidated **maleic** acid copolymer; **pigment** dispersant maleamide copolymer

IT **Pigments**
(dispersants for, hydroxyethyl aminated **maleic** acid-alkyl vinyl ether copolymers as)

IT Carbon black, uses and miscellaneous
RL: TEM (Technical or engineered material use); USES (Uses)
(dispersants for, hydroxyethyl aminated **maleic** acid-alkyl vinyl ether copolymers as)

IT Surfactants
(hydroxyethyl amidated **maleic** acid-alkyl vinyl ether copolymers, preparation and properties of)

IT Dispersing agents
(hydroxyethyl aminated **maleic** acid-alkyl vinyl ether copolymers, for **pigments**)

IT 147-14-8 1309-37-1, uses and miscellaneous
RL: TEM (Technical or engineered material use); USES (Uses)
(dispersants for, hydroxyethyl aminated **maleic** acid-alkyl vinyl ether copolymers as)

IT 141-43-5DP, reaction products with **maleic** acid-alkyl vinyl ether copolymers 25153-40-6DP, reaction products with ethanolamine
26935-44-4DP, reaction products with ethanolamine
55879-35-1DP, reaction products with ethanolamine
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dispersants, for **pigments**, preparation and properties of)

L59 ANSWER 32 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1985:506399 CAPLUS

DOCUMENT NUMBER: 103:106399

TITLE: Primers for metal leaf

INVENTOR(S): Brauer, Paul H.

PATENT ASSIGNEE(S): Fed. Rep. Ger.

SOURCE: Ger. Offen., 9 pp.
CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3339731	A1	19850515	DE 1983-3339731	19831103
PRIORITY APPLN. INFO.:			DE 1983-3339731	19831103

AB The primers, especially useful on gold leaf, contain plasticizer-free **aq**

. dispersions of thermoplastics with film-forming temperature 4-15° (e.g. **maleic** acid-vinyl acetate copolymer [24980-59-4]), fillers or **pigments**, and optionally, protective colloids.

IT 24980-59-4

RL: USES (Uses)

(primers, water-thinned, for gold leaf)

RN 24980-59-4 CAPLUS

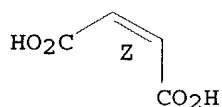
CN 2-Butenedioic acid (2Z)-, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 110-16-7

CMF C4 H4 O4

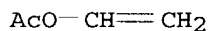
Double bond geometry as shown.



CM 2

CRN 108-05-4

CMF C4 H6 O2



IC ICM C09J003-00

ICS C09J005-02; C09D003-48; C09D005-00; C09D007-00; B05D001-28; C23C005-00; B44C001-14

CC 42-7 (Coatings, Inks, and Related Products)

ST primer metal leaf; gold leaf primer; **maleic** acid copolymer primer; vinyl acetate copolymer primer; filler primer metal leaf; gypsum filler primer

IT Coating materials

(primers, vinyl ester polymers-fillers, for metal leaf)

IT Coating materials

(water-thinned, vinyl ester polymers-fillers, for metal leaf)

IT 13397-24-5, uses and miscellaneous

RL: USES (Uses)

(filler, for water-thinned primers for metal leaf)

IT 7440-57-5, uses and miscellaneous

RL: USES (Uses)

(leaf, waterborne primers for)

IT 24980-59-4

RL: USES (Uses)

(primers, water-thinned, for gold leaf)

ACCESSION NUMBER: 1985:87682 CAPLUS
 DOCUMENT NUMBER: 102:87682
 TITLE: Single exposure positive contact litho film
 INVENTOR(S): Dueber, Thomas Eugene
 PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co. , USA
 SOURCE: Eur. Pat. Appl., 30 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 110145	A2	19840613	EP 1983-110754	19831027
EP 110145	A3	19860611		
EP 110145	B1	19890531		
R: BE, DE, IT				
JP 59097137	A2	19840604	JP 1983-200106	19831027
JP 02059976	B4	19901214		
US 4504566	A	19850312	US 1984-623130	19840622

PRIORITY APPLN. INFO.: US 1982-438713 19821101

AB A photosensitive litho element is described which is useful as single-exposure pos. contact film which can be handled under yellow light conditions, or for preparation of color images from color separation negs. suitable

for color-proofing. The element, which has a long storage life and excellent exposure latitude, comprises a support, a dye or pigment -coating lower layer, and an upper photosensitive layer. In both layers ≥ 1 quinone diazide is present at .apprx.20-40 weight% (based on the dry coating). Thus, a resin-subbed poly(ethylene terephthalate) was extrusion die-coated at 30 ft/min with a composition prepared by mixing a composition

containing 2,4-dihydroxybenzoic acid bis(2-diazo-1-naphthol-5-sulfonate) 72, 3,5-dihydroxybenzoic acid bis(2-diazo-1-naphthol-5-sulfonate) 72, H₂O 2047, and NH₄OH (concentrated) 28.8 with a C black dispersion [25% solids CH₂Cl₂

solution of a roll milled C black in a polymer binder of Et acrylate-Me methacrylate-acrylic acid copolymer (acid number 76-85, .hivin.Mw = 260,000)] 756 g and dissolving the obtained solution in 3024 g H₂O and enough NH₄OH to make a clear solution. The element was overcoated with a composition containing 2,4-dihydroxybenzoic acid bis(2-diazo-1-naphthol-5-sulfonate) 108, 3,5-dihydroxybenzoic acid bis(2-diazo-1-naphthol-5-sulfonate) 108, Me methacrylate-methacrylic acid copolymer (acid number 60, .hivin.Mw = 70,000 1176.5, Et acrylate-Me methacrylate-acrylic acid copolymer (acid number 60-65, .hivin.Mw = 7000, 20% aqueous) 675, styrene-maleic anhydride copolymer esterified with BuOH (acid number 190, .hivin.Mw = 10,000, 10% aqueous) 2160, 40% aqueous polyethylene 562.5, 28% NH₄OH 37.8, H₂O 1091.2, and FC-128 81 g at 24 mg/dm², dried, imagewise exposed with a Xe lamp (4 KW) at 5 ft for 2 min, developed in a Crona-lite processor with a solution containing K₂CO₃ 1.5, H₂O 84, KHCO₃ 5, and H₂O 1536

g,

and rinsed with H₂O to give an excellent pos. image of good optical d.

IT 9005-09-8

RL: USES (Uses)

(photosensitive multilayer single exposure pos. contact lithog. film containing)

RN 9005-09-8 CAPLUS

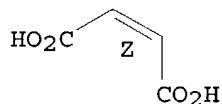
CN 2-Butenedioic acid (2Z)-, polymer with chloroethene and ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 110-16-7

CMF C4 H4 O4

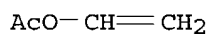
Double bond geometry as shown.



CM 2

CRN 108-05-4

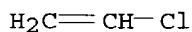
CMF C4 H6 O2



CM 3

CRN 75-01-4

CMF C2 H3 Cl



IC G03F007-02; G03F007-08

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST lithog film pos contact; quinone diazide lithog film

IT Polyesters, uses and miscellaneous

RL: USES (Uses)

(binder, lithog. single exposure multilayer pos. contact film containing quinone diazide compds. and)

IT Lithography

(films for, single exposure, multilayer pos.-working, contact, containing quinone diazide compds. for improved storage life and exposure latitude)

IT Carbon black, uses and miscellaneous

RL: USES (Uses)

(lithog. single exposure multilayer pos. contact film containing quinone diazide compds. and)

IT Lithographic plates
 (photosensitive multilayer single-exposure pos. contact element, containing
 quinone diazide compds.)

IT Photography, color
 (proofing in, photosensitive litho element for)

IT 108-95-2D, ethers with Epon 828, esters with diazooxonaphthalenesulfonyl
 chloride 110-80-5 3770-97-6D, esters with phenoxyated Epon 828
 9003-35-4 **9005-09-8** 9038-42-0 11114-17-3 25068-38-6D,
 ethers with phenol, esters with diazooxonaphthalenesulfonyl chloride
 25086-15-1 25135-39-1 25322-68-3 25609-89-6 26603-99-6
 28262-63-7 94936-70-6 94936-71-7 94936-72-8 94936-73-9
 RL: USES (Uses)
 (photosensitive multilayer single exposure pos. contact lithog. film
 containing)

L59 ANSWER 34 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1984:456564 CAPLUS

DOCUMENT NUMBER: 101:56564

TITLE: Comb copolymers with polyoxyalkylene and carboxylate
 salt side chains

INVENTOR(S): Tsubakimoto, Tsuneo; Hosoidi, Masahiro; Tahara,
 Hideyuki

PATENT ASSIGNEE(S): Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 56 pp.
 CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 56627	A2	19820728	EP 1982-100247	19820115
EP 56627	A3	19820804		
EP 56627	B1	19841003		
R: DE, FR, GB, IT				
JP 57118058	A2	19820722	JP 1981-3776	19810116
JP 58038380	B4	19830823		
JP 57119896	A2	19820726	JP 1981-5913	19810120
JP 59016519	B4	19840416		
JP 58032051	A2	19830224	JP 1981-95928	19810623
JP 58038381	B4	19830823		
JP 58006295	A2	19830113	JP 1981-101353	19810701
JP 59014277	B4	19840403		
US 4471100	A	19840911	US 1982-339640	19820115
PRIORITY APPLN. INFO.:			JP 1981-3776	19810116
			JP 1981-5913	19810120
			JP 1981-95928	19810623
			JP 1981-101353	19810701

AB Title copolymers, useful as dispersing agents for cement in concrete and
 mortar and for pigments in paints and as scale inhibitors in
 water, are manufactured by polymerization of polyalkylene glycol monoallyl
 ether
 25-75, maleic monomer 25-75, and a copolymerizable vinyl monomer
 0-50 mol, followed by neutralization with alkali or alkaline earth metal

hydroxides, ammonia, or amines. Thus, adding **maleic** anhydride 139.3, (NH₄)₂S₂O₈ 14.2, and water 225 parts to 334 parts polyethylene glycol monoallyl ether (average d.p. 5) and 100 parts water in 120 min under N at 95° with stirring, adding 4.2 parts 20% **aqueous** (NH₄)₂S₂O₈ in 20 min, holding the reaction mixture at 95° for 100 min, and neutralizing with 28% **aqueous** NH₄OH gave 44% solids copolymer salt (I) [91070-72-3] solution with pH 8.0 and viscosity 93 cP. A paste containing 24% I solution 29.9, water 90.8, Emulgen 909 wetting agent

7.1,

ethylene oxide 158.5, TiO₂ 871.2, and Cellosize QP-4400 thickener 36.0 parts was mixed (68.9 parts) with 100 parts Acryset EMN-210E [91196-08-6] acrylic polymer emulsion and 6.5 parts CS-12 film-forming additive to give a paint with viscosities 1714 and 1754 cP immediately after and 1 day after preparation, resp., compared with 3540 and 4490, resp., for a similar paint containing Tamol 731 (diisobutylene-**maleic** anhydride copolymer Na salt) instead of I.

IT 84154-79-0P 91068-65-4P 91070-72-3P

91070-75-6P 91070-76-7P

RL: PREP (Preparation)

(dispersing agents, manufacture of)

RN 84154-79-0 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with α -2-propenyl- ω -hydroxypoly(oxy-1,2-ethanediyl), sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 82940-71-4

CMF (C₄ H₄ O₄) . (C₂ H₄ O)_n C₃ H₆ O)_x

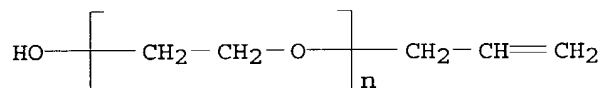
CCI PMS

CM 2

CRN 27274-31-3

CMF (C₂ H₄ O)_n C₃ H₆ O

CCI PMS

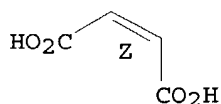


CM 3

CRN 110-16-7

CMF C₄ H₄ O₄

Double bond geometry as shown.



RN 91068-65-4 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with 2-hydroxyethyl 2-methyl-2-propenoate, α -2-propenyl- ω -hydroxypoly(oxy-1,2-ethanediyl) and α -2-propenyl- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)], sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 90836-53-6

CMF (C6 H10 O3 . C4 H4 O4 . (C3 H6 O)n C3 H6 O . (C2 H4 O)n C3 H6 O)x

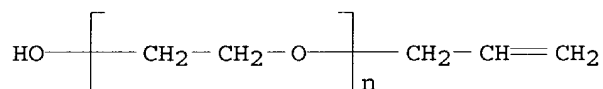
CCI PMS

CM 2

CRN 27274-31-3

CMF (C2 H4 O)n C3 H6 O

CCI PMS

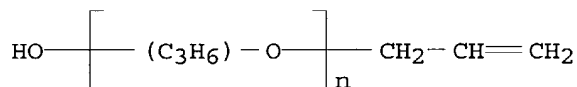


CM 3

CRN 9042-19-7

CMF (C3 H6 O)n C3 H6 O

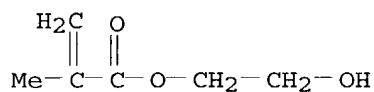
CCI IDS, PMS



CM 4

CRN 868-77-9

CMF C6 H10 O3

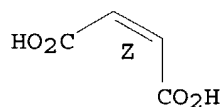


CM 5

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



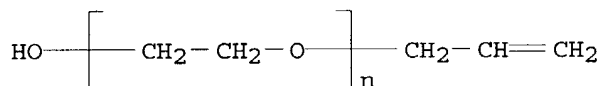
RN 91070-72-3 CAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with α -2-propenyl- ω -hydroxypoly(oxy-1,2-ethanediyl), ammonium salt (9CI) (CA INDEX NAME)

CM 1

CRN 82940-71-4
 CMF (C4 H4 O4 . (C2 H4 O)n C3 H6 O)x
 CCI PMS

CM 2

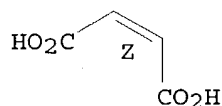
CRN 27274-31-3
 CMF (C2 H4 O)n C3 H6 O
 CCI PMS



CM 3

CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



RN 91070-75-6 CAPLUS
 CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with α -2-propenyl- ω -hydroxypoly(oxy-1,2-ethanediyl), sodium salt (9CI) (CA INDEX NAME)

CM 1

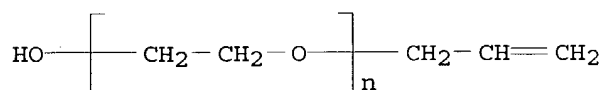
CRN 91070-74-5
 CMF (C5 H6 O4 . (C2 H4 O)n C3 H6 O)x
 CCI PMS

CM 2

CRN 27274-31-3

CMF (C2 H4 O)n C3 H6 O

CCI PMS

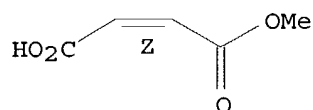


CM 3

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.



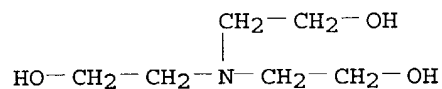
RN 91070-76-7 CAPLUS

CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with
 α -2-propenyl- ω -hydroxypoly(oxy-1,2-ethanediyl), compd. with
 2,2',2''-nitrilotris[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 102-71-6

CMF C6 H15 N O3



CM 2

CRN 82940-71-4

CMF (C4 H4 O4) . (C2 H4 O)n C3 H6 O)x

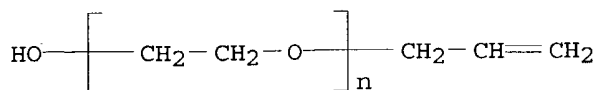
CCI PMS

CM 3

CRN 27274-31-3

CMF (C2 H4 O)n C3 H6 O

CCI PMS

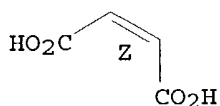


CM 4

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



IC C08F216-14; C08F222-00; C04B013-24; C09D007-02; C02F005-00
 ICI C08F216-14, C08F222-00; C08F222-00, C08F216-14
 CC 42-7 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 35, 58, 61
 ST polyoxyalkylene allyl ether maleate copolymer; polyoxyethylene allyl ether maleate copolymer; dispersant polyoxyethylene allyl maleate copolymer; cement dispersant maleate copolymer; concrete dispersant maleate copolymer; mortar dispersant maleate copolymer; **pigment** dispersant maleate copolymer; acrylic paint dispersant
 IT Cement
 (dispersing agents for, in concrete and mortar, polyethylene glycol allyl ether-**maleic** copolymer salts as)
 IT Concrete
 Mortar
 (dispersing agents for, polyethylene glycol allyl ether-**maleic** copolymer salts as)
 IT Dispersing agents
 (polyethylene glycol allyl-**maleic** copolymer salts, manufacture of)
 IT Scale (coating)
 (prevention of, in water, by polyethylene glycol allyl ether-**maleic** copolymer salts)
 IT Waters, ocean
 (scale prevention in, by polyethylene glycol allyl ether-**maleic** copolymer salts)
 IT Coating materials
 (paints, water-thinned, acrylic polymer, dispersing agents for, polyethylene glycol allyl ether-**maleic** copolymer salts as)
 IT 471-34-1, uses and miscellaneous
 RL: USES (Uses)
 (dispersing agents for, in water, polyethylene glycol allyl ether-**maleic** copolymer salts as)
 IT 84154-79-0P 90819-16-2P 91068-65-4P
 91070-72-3P 91070-73-4P 91070-75-6P
 91070-76-7P

RL: PREP (Preparation)
(dispersing agents, manufacture of)

IT 91196-08-6
RL: USES (Uses)
(paints, dispersing agents for, polyethylene glycol allyl ether-
maleic copolymer salts as)

IT 13463-67-7, uses and miscellaneous
RL: USES (Uses)
(**pigments**, dispersing agents for, in acrylic polymer paints,
polyethylene glycol allyl ether-**maleic** copolymer salts as)

IT 91068-67-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 7732-18-5, uses and miscellaneous
RL: USES (Uses)
(scaling prevention in, by polyethylene glycol allyl ether-
maleic copolymer salts)

L59 ANSWER 35 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1984:86648 CAPLUS
DOCUMENT NUMBER: 100:86648
TITLE: Dispersing agents for **pigments** in water
PATENT ASSIGNEE(S): Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58149911	A2	19830906	JP 1982-32279	19820303
JP 01036487	B4	19890801		

PRIORITY APPLN. INFO.: JP 1982-32279 19820303

AB **Pigment** dispersing agents in water are prepared by polymerizing unsatd. monocarboxylic acids or their salts, derivs. of polyol allyl ethers, and **maleic** acid salts. Thus, a solution of 300 g di-K maleate in 230 g H₂O was treated with a mixture of 60% **aqueous** 3-allyloxy-2-hydroxypropanesulfonic acid Na salt solution 170, acrylic acid 100, 20% **aqueous** (NH₄)₂S₂O₈ solution 150, and 35% H₂O₂ 50 g at 90° for 4 h to give copolymer (I) [88821-02-7]. A mixture of 1.5 g I and 400 g of 25% solids satin white **aqueous** dispersion had viscosity 9 cP for ≥24 h, compared with 80 cP for a similar composition containing 2.0 g poly(acrylic acid) Na salt instead of I.

IT 88821-02-7 88821-18-5 88841-27-4

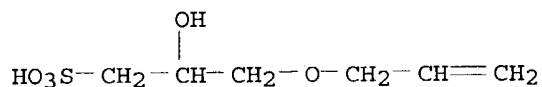
RL: USES (Uses)
(dispersing agents, for **pigments** in water)

RN 88821-02-7 CAPLUS

CN 2-Butenedioic acid (2Z)-, dipotassium salt, polymer with
2-hydroxy-3-(2-propenyloxy)-1-propanesulfonic acid monosodium salt and
2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 52556-42-0
CMF C6 H12 O5 S . Na

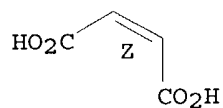


● Na

CM 2

CRN 4151-34-2
CMF C4 H4 O4 . 2 K

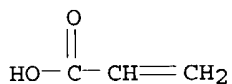
Double bond geometry as shown.



● 2 K

CM 3

CRN 79-10-7
CMF C3 H4 O2

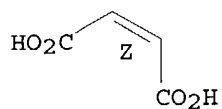


RN 88821-18-5 CAPLUS
CN 2-Butenedioic acid (2Z)-, diammonium salt, polymer with
2-methyl-2-propenoic acid and 3-(2-propenyloxy)-1,2-propanediol (9CI) (CA
INDEX NAME)

CM 1

CRN 23705-99-9
CMF C4 H4 O4 . 2 H3 N

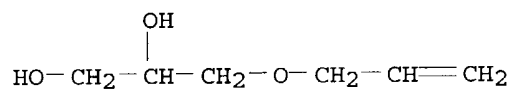
Double bond geometry as shown.



● 2 NH₃

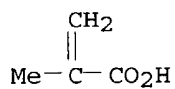
CM 2

CRN 123-34-2
CMF C6 H12 O3



CM 3

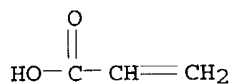
CRN 79-41-4
CMF C4 H6 O2



RN 88841-27-4 CAPLUS
CN 2-Butenedioic acid (2Z)-, disodium salt, polymer with oxirane,
3-(2-propenyloxy)-1,2-propanediol and sodium 2-propenoate (9CI) (CA INDEX
NAME)

CM 1

CRN 7446-81-3
CMF C3 H4 O2 . Na



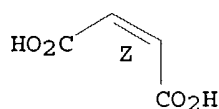
● Na

CM 2

CRN 371-47-1

CMF C4 H4 O4 . 2 Na

Double bond geometry as shown.

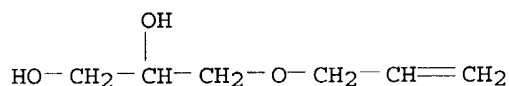


●2 Na

CM 3

CRN 123-34-2

CMF C6 H12 O3



CM 4

CRN 75-21-8

CMF C2 H4 O



IC C08F220-06; C08F216-14; C08F222-10

ICA C09C003-10

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 42

ST water soluble polymer; **pigment** dispersing agent; **maleic** acid salt copolymer; acrylic acid copolymer; allyloxyhydroxypropanesulfonic acid copolymer

IT **Pigments**

(dispersing agents for, water-soluble polymers as)

IT Dispersing agents

(for **pigments** in water, water-soluble polymers as)

IT 88821-02-7 88821-18-5 88841-27-4 88841-40-1

RL: USES (Uses)

(dispersing agents, for **pigments** in water)

L59 ANSWER 36 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1982:457209 CAPLUS

DOCUMENT NUMBER: 97:57209

TITLE: Highly concentrated fluid inorganic **pigment** compositions and their use

INVENTOR(S): Belde, Horst; Daubach, Ewald; Hambrecht, Juergen

PATENT ASSIGNEE(S): BASF A.-G. , Fed. Rep. Ger.

SOURCE: Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 49785	A2	19820421	EP 1981-107487	19810921
EP 49785	A3	19830112		
EP 49785	B1	19850109		
R: CH, DE, FR, GB, IT				
DE 3037989	A1	19820513	DE 1980-3037989	19801008
JP 57092056	A2	19820608	JP 1981-159555	19811008
			DE 1980-3037989	19801008

PRIORITY APPLN. INFO.:

AB **Pigment** preps. which remain fluid at **pigment** concns. of 50-80%, useful in **aqueous** printing inks and plastic dispersions, contain **pigments**, polyoxyalkylenes, salts of carboxylated styrene-olefin polymers (mol. weight 500-10,000), and H₂O. Thus, milling Fe₂O₃ 650, dipropylene glycol 150, H₂O 120, 4-chloro-m-cresol 3, 24:6:70 acrylic acid-**maleic** anhydride-styrene copolymer NH₄ salt [57816-63-4] (mol. weight 1400) 2.5, and 40:60 ethylene oxide-propylene oxide reaction product (mol. weight 12,000) with ethylenediamine 60 parts for 5 passes gave a dispersion with **pigment** content 65% and viscosity (Ford cup, 8-mm nozzle) 10 s. In the absence of either copolymer or polyoxyalkylene, the preparation was an unstirrable paste.

IT 82547-43-1

RL: USES (Uses)

(dispersants, for **pigment** preparation with high concentration)

RN 82547-43-1 CAPLUS

CN 2-Butenedioic acid (2Z)-, monobutyl ester, polymer with ethenylbenzene, ethenyl 2-hydroxypropanoate and 2,5-furandione, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 82547-42-0

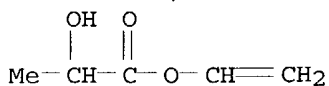
CMF (C8 H12 O4 . C8 H8 . C5 H8 O3 . C4 H2 O3)x

CCI PMS

CM 2

CRN 44645-72-9

CMF C5 H8 O3

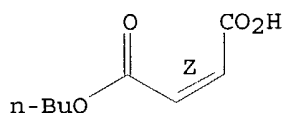


CM 3

CRN 925-21-3

CMF C8 H12 O4

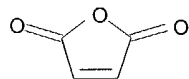
Double bond geometry as shown.



CM 4

CRN 108-31-6

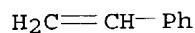
CMF C4 H2 O3



CM 5

CRN 100-42-5

CMF C8 H8



IC C09D017-00; C09D011-02; C09C001-00

CC 42-6 (Coatings, Inks, and Related Products)

ST **pigment** prepn concd dispersant; polyoxyalkylene dispersant
pigment; ethylenediamine polyoxyalkylated dispersant; styrene
 copolymer dispersant; **maleic** anhydride copolymer dispersant;
 acrylic acid copolymer dispersant

IT Dispersing agents
 (carboxylated polymers and polyoxyalkylenes, for concentrated **pigment**
 preps.)

IT Polyoxyalkylenes

RL: PREP (Preparation)

(dispersants, for **pigment** preparation with high concentration)

IT Castor oil

RL: PREP (Preparation)
 (polyoxyalkylated, dispersants for **pigment** preparation)

IT **Pigments**
 (prepns., dispersants for concentrated)

IT Amides, uses and miscellaneous
 RL: PREP (Preparation)
 (fatty, polyoxyalkylated, dispersants for **pigment** preparation)

IT Textile printing
 (pastes, **pigment** prepns. for, concentrated)

IT Inks
 (printing, **pigment** prepns. for, concentrated)

IT 107-15-3D, polyoxyalkylated 9003-11-6D, monoethers 9016-45-9
 26022-09-3 52624-57-4 57816-63-4 57816-64-5 **82547-43-1**
 82548-25-2
 RL: USES (Uses)
 (dispersants, for **pigment** preparation with high concentration)

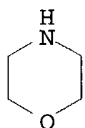
L59 ANSWER 37 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1982:124716 CAPLUS
 DOCUMENT NUMBER: 96:124716
 TITLE: Jet-printing inks
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56157468	A2	19811204	JP 1980-59603	19800506
JP 01015542	B4	19890317		
DE 3115532	A1	19820128	DE 1981-3115532	19810416
DE 3115532	C2	19890406		
US 4597794	A	19860701	US 1984-628114	19840703
PRIORITY APPLN. INFO.:			JP 1980-51891	19800417
			JP 1980-51892	19800417
			JP 1980-51895	19800417
			JP 1980-51897	19800417
			JP 1980-59602	19800506
			JP 1980-59603	19800506
			JP 1980-60431	19800507
			US 1981-251090	19810406
			US 1983-532298	19830914

AB **Aqueous** dispersions of **pigments** and polymers having hydrophilic and hydrophobic segments and mol. weight 2-150 times that of the **pigment** are useful as jet-printing inks. Thus, a composition of diisobutylene-maleic acid copolymer (mol. weight 10,000) 6, morpholine 10, diethylene glycol 17, H₂O 60, and anthraquinone derivative orange **pigment** (mol. weight 456) 7 parts was ball-milled 48 h and centrifuged to remove coarse particles to give an ink which showed good printing performance in a jet-printing apparatus having orifice diameter 50 μ at 60 V and 20 kHz to form printings having good water and light resistance.

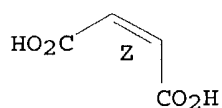
IT 81134-13-6
 RL: USES (Uses)
 (jet-printing inks containing anthraquinone derivative **pigment** and)
 RN 81134-13-6 CAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with 2,4,4-trimethyl-1-pentene, compd.
 with morpholine (9CI) (CA INDEX NAME)
 CM 1
 CRN 110-91-8
 CMF C4 H9 N O



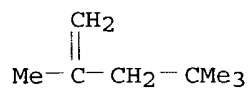
CM 2
 CRN 31133-06-9
 CMF (C8 H16 . C4 H4 O4)x
 CCI PMS

CM 3
 CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



CM 4
 CRN 107-39-1
 CMF C8 H16



IC C09D011-00
 CC 42-12 (Coatings, Inks, and Related Products)
 ST jet printing ink; diisobutylene copolymer ink binder; **maleic**
 acid copolymer salt

IT **Pigments**
 (anthraquinone derivative, jet-printing inks containing **maleic acid** copolymer amine salt and, water-based)

IT **Inks**
 (jet-printing, water-based, containing **maleic acid** copolymer amine salt and anthraquinone derivative **pigment**)

IT **81134-13-6**
 RL: USES (Uses)
 (jet-printing inks containing anthraquinone derivative **pigment** and)

IT 84-65-1D, derivs.
 RL: USES (Uses)
 (**pigments**, jet-printing inks containing diisobutylene-**maleic acid** copolymer amine salt and)

L59 ANSWER 38 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1982:87220 CAPLUS
 DOCUMENT NUMBER: 96:87220
 TITLE: Jet-printing inks
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56147865	A2	19811117	JP 1980-51893	19800417
JP 61055547	B4	19861128		

PRIORITY APPLN. INFO.: JP 1980-51893 19800417

AB **Pigments** are prepared in **aqueous** solns. of polymeric dispersing agents and purified by ultrafiltration to give jet-printing inks. Thus, a composition of 2,5-dimethyl-4-chloroacetoacetanilide 13, NaOH 4, H2O 400, Dimol EP (diisobutylene-**maleic acid** copolymer) [**31133-06-9**] 5, NaOAc 7, AcOH 7, and diethylene glycol 40 parts at 5° was treated with a solution of dichlorobenzidine 6, HCl 9, H2O 100, ice 50, NaNO2 3, and sulfamic acid 0.1 part, ultrafiltered through a polyolefin membrane to remove electrolytes, and restored to the original volume with addnl. H2O to give an ink containing azo **pigment**. The ink had good storage stability at -30 and +60° and good printing performance in a jet printing apparatus (orifice diameter 50 μ, 60 V, 4 kHz), giving water-resistant printings.

IT **31133-06-9**
 RL: USES (Uses)
 (dispersing agents, for azo **pigments** in jet-printing inks)

RN 31133-06-9 CAPLUS

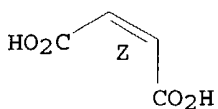
CN 2-Butenedioic acid (2Z)-, polymer with 2,4,4-trimethyl-1-pentene (9CI)
 (CA INDEX NAME)

CM 1

CRN 110-16-7

CMF C4 H4 O4

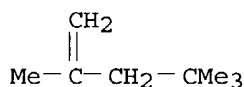
Double bond geometry as shown.



CM 2

CRN 107-39-1

CMF C8 H16



IC C09D011-00; C09D011-16

CC 42-12 (Coatings, Inks, and Related Products)

ST jet printing ink; azo **pigment** dispersion; water thinned ink;
maleic acid copolymer dispersant; diisobutylene copolymer
dispersant

IT **Pigments**

(azo, jet-printing inks containing, dispersing agents for)

IT Dispersing agents

(diisobutylene-**maleic** acid copolymer, for azo
pigments in jet-printing inks)

IT Inks

(jet-printing, water-thinned, containing azo **pigments** and
polymeric dispersing agents)

IT 31133-06-9

RL: USES (Uses)

(dispersing agents, for azo **pigments** in jet-printing inks)

L59 ANSWER 39 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1981:621641 CAPLUS

DOCUMENT NUMBER: 95:221641

TITLE: Dispersant for paper coating **pigment**

PATENT ASSIGNEE(S): Toa Gosei Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56115630	A2	19810910	JP 1980-19062	19800220
JP 01056827	B4	19891201		

PRIORITY APPLN. INFO.: JP 1980-19062 19800220

AB Copolymers from ≥ 1 α, β -unsatd. carboxylic acid 100, C1-8

alkyl methacrylates, styrene, and(or) vinyl acetate 5-185, and a sulfonic acid group-containing monomer 0.5-233 parts are neutralized with **aqueous** alkali or NH₃ and optionally treated with Ca, Mg, Zn, and(or) Al salts to give dispersants useful for paper coating **pigments**. Thus, a 62.5:37.5:62.5:87.5 acrylic acid(I)-**maleic** acid-Me methacrylate-2-acrylamide-2-methylpropanesulfonic acid copolymer was neutralized with **aqueous** NaOH, treated with 5% (on polymer) Mg(OAc)₂, and diluted to 20% solids at pH 6.8. Com. satin white slurry was kneaded with water and 2% (on **pigment**) dispersant to give a 20% slurry with viscosity 8, 8, and 10 cP initially, after 1 day, and after heating at 60°, resp., compared with 8, 150, and 500cP, resp., for a control containing a neutralized 1:1 I-Me acrylate copolymer dispersant.

IT 80044-67-3

RL: USES (Uses)

(dispersant, containing magnesium acetate, for satin white paper coatings)

RN 80044-67-3 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with methyl 2-methyl-2-propenoate, 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid and 2-propenoic acid, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 80044-66-2

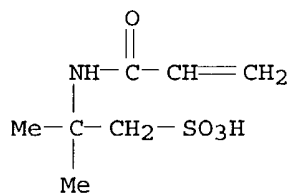
CMF (C7 H13 N O4 S . C5 H8 O2 . C4 H4 O4 . C3 H4 O2)x

CCI PMS

CM 2

CRN 15214-89-8

CMF C7 H13 N O4 S

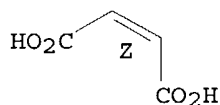


CM 3

CRN 110-16-7

CMF C4 H4 O4

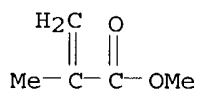
Double bond geometry as shown.



CM 4

CRN 80-62-6

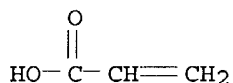
CMF C5 H8 O2



CM 5

CRN 79-10-7

CMF C3 H4 O2



IC B01F017-52; C09C003-10; C09D007-12; D21H001-22

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 42

ST satin white **pigment** dispersant; acrylamidomethylpropanesulfonate copolymer; magnesium acetate dispersant additive; dispersant paper coating **pigment**; sulfonic acid copolymer dispersant; acrylate copolymer dispersant

IT Dispersing agents
(acrylamidomethylpropanesulfonate copolymer, containing magnesium acetate, for satin white in paper coatings)

IT Paper
(coatings for, satin white-**pigmented**, dispersants for)

IT **80044-67-3**
RL: USES (Uses)
(dispersant, containing magnesium acetate, for satin white paper coatings)

IT 142-72-3
RL: USES (Uses)
(dispersants containing, for satin white paper coatings)

IT 12344-48-8
RL: USES (Uses)
(**pigment**, dispersants for, in paper coatings)

L59 ANSWER 40 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1980:613328 CAPLUS

DOCUMENT NUMBER: 93:213328

TITLE: Electrostatographic liquid developers

INVENTOR(S): Tsubushi, Kazuo; Kobayashi, Katsuomi; Shimizu, Tadashi

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55036847	A2	19800314	JP 1978-109938	19780907
PRIORITY APPLN. INFO.:			JP 1978-109938	19780907

AB Electrostatog. liquid developers are prepared by dispersing a **pigment** (or dye) and an **aqueous** dispersion of acrylic graft copolymers in a highly insulating solvent having low dielec. constant. The graft copolymers are prepared by esterifying a copolymer of CH₂:CRR₁ (R = H, Me; R₁ = CO₂C_nH_{2n+1}, OC_nH_{2n+1}; n = 6-20) and a glycidyl (meth)acrylate (or an unsatd. carboxylic acid or its anhydride) with an unsatd. carboxylic acid derivative [or glycidyl (meth)acrylate], and subsequently grafting a monomer of the formula CH₂:CR₂R₃ (R₂ = H, Me; R₃ = CO₂C_mH_{2m+1}, OC_mH_{2m+1}, CO₂C₂H₄NR₂₄, 4-pyridyl, Ph, p-MeCH₄, p-ClC₆H₄, p-NO₂C₆H₄, p-NH₂C₆H₄, p-HO₂CC₆H₄, succinimido; m = 1-4; R₄ = C₁-5 alkyl). Thus, a 2-ethylhexyl methacrylate-glycidyl methacrylate copolymer was reacted with **maleic** acid, and vinyltoluene was grafted on the copolymer ester to give a graft copolymer dispersion (η = 58.4 cP and acid value 95.3%). The dispersion 50, carbon black 5 and Isopar H 100 g were mixed well, and the resultant toner concentrate 10 g was diluted with 2 L Isopar H to give an electrostatog. developer having excellent storage stability and electrophotog. characteristics.

IT 75117-37-2 75117-40-7

RL: USES (Uses)

(graft, electrostatog. liquid developer binder resin)

RN 75117-37-2 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylmethylbenzene, 2-ethylhexyl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 25013-15-4

CMF C9 H10

CCI IDS



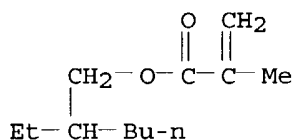
D1-Me

D1-CH=CH₂

CM 2

CRN 688-84-6

CMF C12 H22 O2

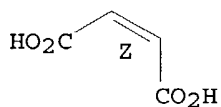


CM 3

CRN 110-16-7

CMF C4 H4 O4

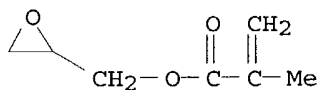
Double bond geometry as shown.



CM 4

CRN 106-91-2

CMF C7 H10 O3



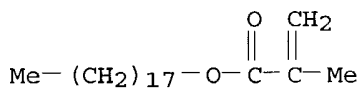
RN 75117-40-7 CAPLUS

CN 2-Butenedioic acid (2Z)-, polymer with ethenylmethylbenzene, octadecyl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 32360-05-7

CMF C22 H42 O2



CM 2

CRN 25013-15-4
CMF C9 H10
CCI IDS



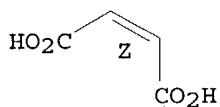
D1-Me

D1-CH=CH₂

CM 3

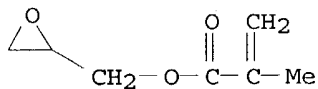
CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



CM 4

CRN 106-91-2
CMF C7 H10 O3



IC G03G009-12
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
ST electrostatog liq developer binder resin; graft acrylic copolymer binder resin
IT Acrylic polymers, uses and miscellaneous
Carbon black
Carbon black, uses and miscellaneous
RL: USES (Uses)
(electrostatog. liquid developer containing)
IT Electrophotography
(liquid developers for, graft acrylic copolymer binders for)
IT Photography, electro-, developers

(liquid, graft acrylic copolymer binder resins for)
 IT 1317-61-9, uses and miscellaneous 60454-60-6 75216-50-1 75216-51-2
 RL: USES (Uses)
 (electrostatog. liquid developer containing)
 IT 64334-72-1 69941-24-8 74642-23-2 **75117-37-2** 75117-38-3
75117-40-7
 RL: USES (Uses)
 (graft, electrostatog. liquid developer binder resin)

L59 ANSWER 41 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1976:173022 CAPLUS
 DOCUMENT NUMBER: 84:173022
 TITLE: Magnetic tape
 INVENTOR(S): Buske, Norbert; Sonntag, Hans; Bormann, Baerbel;
 Brockel, Dieter; Schefter, Wilfried; Schneider,
 Christoph
 PATENT ASSIGNEE(S): Ger. Dem. Rep.
 SOURCE: Ger. (East), 8 pp.
 CODEN: GEXXA8
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 116963	Z	19751212	DD 1975-183824	19750127
PRIORITY APPLN. INFO.:			DD 1975-183824	19750127

AB Magnetic tapes consisting of a nonmagnetic support carrying at least 1 magnetic layer containing fine ferromagnetic particles in a polymeric binder are prepared from an **aqueous** suspension of polymer particles and the ferromagnetic **pigment** in which the sign of the elec. charge on the polymer particles is different from that on the **pigment** particles and in which the polymer particles surround the **pigment** particles and form an elastic film when the suspension is applied to the support and the H2O is driven off. Thus, rod-shaped γ -Fe2O3 particles 400 were dispersed in H2O 800 parts in a colloid mill for 30 min. Magnetic **pigments** in H2O have a pos. charge after 10 min of milling, 50 parts of a 50% **aqueous** dispersion of a vinyl acetate-**maleic** acid copolymer containing 0.1 part of an anion-active surface-active agent based on alkylsulfonate was added. Foam inhibitors can be used to insure that no foam forms. The highly disperse suspension after milling was immediately stirred into 250 parts of a 50% **aq** . dispersion of a vinyl acetate-**maleic** acid copolymer containing 0.5 part of an anion-active surface-active agent, wherein the viscosity could be decreased by adding H2O. The whole mixing process was carried out above the film-forming temperature The dispersion was poured onto a poly(ethylene terephthalate) support and produced a nontacky, abrasion-resistant film.

IT **24980-59-4**
 RL: PRP (Properties)
 (suspensions of oxides and, for magnetic tape manufacture)

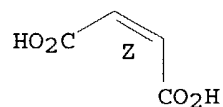
RN 24980-59-4 CAPLUS
 CN 2-Butenedioic acid (2Z)-, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



CM 2

CRN 108-05-4

CMF C4 H6 O2



IC G11B

CC 77-1 (Magnetic Phenomena)

ST magnetic tape suspension; oxide particle magnetic suspension; polymer oxide particle suspension; ferric oxide magnetic suspension; chromium oxide magnetic suspension

IT Magnetic substances

(chromium dioxide and ferric oxide, suspensions of polymer and)

IT Recording

(magnetic tape for, oxide particle suspensions for)

IT Suspensions

(of magnetic particles and polymers, for magnetic tape manufacture)

IT 2-Propenoic acid, esters, polymers

RL: PRP (Properties)

(suspensions of oxides and, for magnetic tape manufacture)

IT 24980-59-4 26657-28-3

RL: PRP (Properties)

(suspensions of oxides and, for magnetic tape manufacture)

IT 1309-37-1, uses and miscellaneous 12018-01-8

RL: USES (Uses)

(suspensions of polymers and, for magnetic tape manufacture)

L59 ANSWER 42 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1976:106587 CAPLUS

DOCUMENT NUMBER: 84:106587

TITLE: Polymerizable organic dispersions

INVENTOR(S): Alberts, Heinrich; Schuster, Klaus; Bartl, Herbert;
Schulz-Walz, Hansjochen

PATENT ASSIGNEE(S): Bayer A.-G., Fed. Rep. Ger.

SOURCE: Ger. Offen., 26 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2431410	A1	19760108	DE 1974-2431410	19740629
GB 1477253	A	19770622	GB 1975-21831	19750521
US 3993710	A	19761123	US 1975-589949	19750624
SE 7507348	A	19751230	SE 1975-7348	19750626
NL 7507630	A	19751231	NL 1975-7630	19750626
BE 830735	A1	19751229	BE 1975-157757	19750627
FR 2276352	A1	19760123	FR 1975-20372	19750627
FR 2276352	B1	19790413		
JP 51019091	A2	19760216	JP 1975-79482	19750627
ES 438940	A1	19770501	ES 1975-438940	19750627
AT 7504950	A	19780415	AT 1975-4950	19750627
CH 601418	A	19780714	CH 1975-8388	19750627

PRIORITY APPLN. INFO.: DE 1974-2431410 19740629
 DE 1974-2449581 19741018

AB An unsatd. polyester, styrene [100-42-5], and an **aqueous** emulsion of a copolymer of ethylene (I) and **maleic** acid monodecyl ester (II), of I, a maleate monoester, and vinyl acetate (III), or of I, III, and CH₂:CHCONHCHMe₂CH₂SO₃Na to prepare dispersions which hardened with a min. of shrinkage in molds without liners. Thus, a 17:40:12:31 bis(2,3-dihydroxypropyl) ether-**maleic** anhydride-phthalic anhydride-1,2-propanediol copolymer [57138-91-7] in styrene (65% solution) 60, styrene 28, hydroquinone 0.03, and a I-II copolymer [58478-97-0] (containing 9.2% II) 12 parts were mixed, and the mixture (100 parts) was mixed with CaCO₃ 100, Zn stearate 4, tert-Bu perbenzoate 0.75, iron oxide **pigments** 5, and MgO 1.5 parts and used to prepare glass fiber-reinforced moldings.

IT **58478-96-9**
 RL: USES (Uses)
 (polyester resins containing, styrene-crosslinked, nonshrinking)

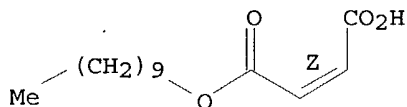
RN 58478-96-9 CAPLUS

CN 2-Butenedioic acid (2Z)-, monodecyl ester, polymer with ethene and ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

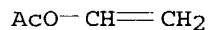
CRN 6994-83-8
 CMF C14 H24 O4

Double bond geometry as shown.



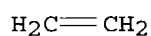
CM 2

CRN 108-05-4
CMF C4 H6 O2



CM 3

CRN 74-85-1
CMF C2 H4



IC C08L; C08J
CC 36-6 (Plastics Manufacture and Processing)
ST polyester unsatd molding nonshrinking; shrinkage resistance polyester molding; ethylene copolymer polyester nonshrinking; maleate copolymer polyester nonshrinking; acrylamidoethanesulfonate copolymer polyester nonshrinking; glass fiber polyester nonshrinking
IT Polyesters, uses and miscellaneous
RL: PEP (Physical, engineering or chemical process); PROC (Process) (moldings, glass fiber-reinforced, nonshrinking)
IT Crosslinking agents
(styrene, for polyester resins with shrinkage resistance)
IT 57138-91-7
RL: USES (Uses)
(containing ethylene copolymers, styrene-crosslinked, nonshrinking)
IT 100-42-5, uses and miscellaneous
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agents, for unsatd. polyesters with shrinkage resistance)
IT 52825-46-4 **58478-96-9** 58478-97-0
RL: USES (Uses)
(polyester resins containing, styrene-crosslinked, nonshrinking)

L59 ANSWER 43 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1974:507526 CAPLUS
DOCUMENT NUMBER: 81:107526
TITLE: Compositions for **aqueous** dispersion paints
INVENTOR(S): Takano, Kazuo; Nishimura, Tsunehiko; Koyama, Muneo; Hirayama, Akira
PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc.
SOURCE: Jpn. Tokkyo Koho, 14 pp.
CODEN: JAXXAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49001448	B4	19740114	JP 1968-28755	19680501

PRIORITY APPLN. INFO.:

JP 1968-28755

19680501

AB Water-based coating compns. forming coatings with good resistance to water, alkali, and weather and good washability contained 60-89.9:10-20:0.1-2 vinyl acetate-ethylene-unsatd. dicarboxylic acid derivative copolymer (emulsion-polymerized in the presence of nonionic and anionic surfactants) with intrinsic viscosity (acetone, 25.deg.) 0.5-0.93 dl/g and **pigment** in 100:10-100 ratio. For example, an emulsion from deaerated water 500, polyethylene glycol nonylphenyl ether 18, Na alkylbenzenesulfonate 7, NaHCO₃ 3, Natrosol 250/L 6, fumaric acid 6, vinyl acetate 60, and K₂S₂O₈ 3 parts were pressured with 35 kg/cm² ethylene at 80.deg., treated with 540 parts vinyl acetate over 4 hr, while a solution of 3 parts K₂S₂O₈ in 100 parts water was added in 4 steps with 1 hr interval, heated at the same temperature for 1 hr, and thinned with water to give a 50% 17:0.8:82.2 ethylene-fumaric acid-vinyl acetate copolymer (I) [27308-79-8] (intrinsic viscosity 0.88 dl/g) dispersion. The I dispersion (360 parts) was mixed with water 212, K tripolyphosphate 1.5, Noigen EA-120 3, ethylene glycol 15, Hg phenylacetate 0.1, TiO₂ 200, CaCO₃ 77, clay 64, defoamer 1, 3% **aqueous** Cellosize WP4400 110, and Carbitol acetate 12 parts, and the mixture was mixed with Phthalocyanine Blue in 100:4 ratio to give a blue paint (for concrete-asphalt panels) stable to storage, heat, and freezing, with better leveling and brushability and higher color d. than coating composition using vinyl acetate-ethylene copolymer binder. Ethylene-itaconic acid-vinyl acetate copolymer [31347-46-3] and ethylene-**maleic** acid-vinyl acetate copolymer [30587-03-2] were also used in place of I.

IT 27308-79-8 30587-03-2

RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, on asbestos-cement sheets, weather-resistant)

RN 27308-79-8 CAPLUS

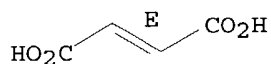
CN 2-Butenedioic acid (2E)-, polymer with ethene and ethenyl acetate (9CI)
(CA INDEX NAME)

CM 1

CRN 110-17-8

CMF C4 H4 O4

Double bond geometry as shown.



CM 2

CRN 108-05-4

CMF C4 H6 O2



CM 3

CRN 74-85-1

CMF C2 H4



RN 30587-03-2 CAPLUS

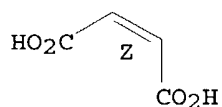
CN 2-Butenedioic acid (2Z)-, polymer with ethene and ethenyl acetate (9CI)
(CA INDEX NAME)

CM 1

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



CM 2

CRN 108-05-4

CMF C4 H6 O2



CM 3

CRN 74-85-1

CMF C2 H4



IC C09D; C08F

CC 42-7 (Coatings, Inks, and Related Products)

ST fumaric acid copolymer paint binder; **maleic** acid copolymer paint binder; itaconic acid copolymer paint binder; vinyl acetate copolymer paint binder; ethylene copolymer paint binder

IT Building materials

(asbestos-cement sheets, weather-resistant coating for)

IT Coating materials

(ethylene-vinyl acetate-unsatd. dicarboxylic acid derivative copolymer, on

asbestos-cement sheets, weather-resistant)

IT Asphalt

RL: USES (Uses)

(panels, containing concrete, weather-resistant coatings for)

IT 27308-79-8 30587-03-2 31347-46-3

RL: TEM (Technical or engineered material use); USES (Uses)

(coatings, on asbestos-cement sheets, weather-resistant)

L59 ANSWER 44 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1969:414258 CAPLUS

DOCUMENT NUMBER: 71:14258

TITLE: Heat-hardenable liquid vehicle for coatings

PATENT ASSIGNEE(S): Dow Chemical Co.

SOURCE: Fr., 13 pp.

CODEN: FRXXAK

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

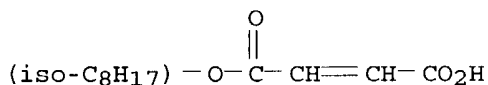
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1531763		19680705	FR	19670622

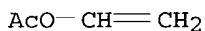
AB Thermosetting liquid vehicle coatings were prepared from a polymer containing CO2H

and (or) carboxylic anhydride groups, an alkanolamine and a polyepoxide. Thus, a mixture of 100 g. styrene-maleic anhydride (I) copolymer (II) containing 23.3% I and 57 g. triethylene glycol mono-Bu ether was heated from 1 hrs. at 200°, the molten mass poured into a solution of 20 g. NH4OH in 300 g. H2O and cooled to give a clear and viscous dispersion of 49:51 styrene-2-[2-(2-butoxyethoxy)ethoxy]-ethyl maleate copolymer (III). III (100 parts) was mixed with 50% aqueous emulsion of 2,2-bis(hydroxyphenyl)propane diglycidyl ether (IV) 24, nonylphenoxypoly(oxyethylene) 2.75 and 100% nonylphenoxypolyethylene solution in 100 parts diglycidyl ether 0.75 part, the mixture held at 60°, 97 parts H2O at 60° added slowly, a mixture of Fe2O3 900, BaSO4 2100, polypropylene glycol 15, polyelectrolyte Na salt 60, and H2O 675 parts was added (1.5 parts pigment per part resin) to give a paint with a viscosity of 14 sec. (Ford cup number 4), which solidified after 4 weeks at 24°. A mixture of 18 g. diethanolamine (V) and 10 g. IV was heated to 150° and addnl. 20 g. IV added in 2 equal amts. to give a V-IV addition product (VI) as a hard, clear resin. A 60% solution of VI (38 parts) was mixed with 100 parts 30.7% aqueous III dispersion and pigment composition (1.5 parts pigments per part resin) to give a paint composition with a viscosity of 33 sec. The paint was applied on steel plates, air dried for 2 hrs. at ambient temperature and 30 min. at 176.5°, the coatings sanded, covered with a melamine-alkyd resin black enamel, dried 30 min. at ambient temperature and 30 min. at 121°, and conditioned 4 days at ambient temperature to give a coating with improved properties. The paint kept its fluidity during a stocking period of 4 weeks. Other hardening agents used were isopropanolamine-IV, diisopropanolamine-IV, and diisopropanolamine-poly[1,8-bis(hydroxyphenyl)pentadecane] polyglycidyl ether addition products. A styrene-isooctyl maleate copolymer, a styrene-butadiene-acrylic acid copolymer, a vinyl acetate-isooctyl acid maleate copolymer, and a vinyl

chloride-Bu acrylate-acrylic acid copolymer were used instead of II.
 IT 26873-65-4, uses and miscellaneous
 RL: USES (Uses)
 (triethylene glycol monobutyl ether-modified, coatings of
 alkanolamine-polyepoxide and)
 RN 26873-65-4 CAPLUS
 CN Maleic acid, monoisooctyl ester, polymer with vinyl acetate (8CI) (CA
 INDEX NAME)
 CM 1
 CRN 30137-97-4
 CMF C12 H20 O4
 CCI IDS



CM 2
 CRN 108-05-4
 CMF C4 H6 O2



IC C09D
 CC 42 (Coatings, Inks, and Related Products)
 ST coatings thermosetting liq vehicles; thermosetting coatings liq vehicles;
 carboxy copolymer coating compns; alkanolamine coating compns; polyepoxide
 coating compns; styrene maleic copolymers; maleic
 styrene copolymers
 IT Coating materials
 (modified acid anhydride copolymer-alkanolamine-polyepoxide,
 heat-curable)
 IT 143-22-6
 RL: USES (Uses)
 (acrylic copolymers modified by, coatings of alkanolamine-polyepoxide
 and)
 IT 1675-54-3
 RL: USES (Uses)
 (coatings of alkanolamines-modified acrylic copolymers and,
 heat-curable)
 IT 78-96-6 110-97-4 111-42-2, uses and miscellaneous
 RL: USES (Uses)
 (coatings of modified acrylic copolymers-polyepoxide and, heat-curable)
 IT 9011-13-6, uses and miscellaneous 25085-39-6, uses and miscellaneous
 26812-73-7, uses and miscellaneous 26873-65-4, uses and
 miscellaneous 26873-66-5, uses and miscellaneous
 RL: USES (Uses)

(triethylene glycol monobutyl ether-modified, coatings of alkanolamine-polyepoxide and)

L59 ANSWER 45 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1969:79236 CAPLUS

DOCUMENT NUMBER: 70:79236

TITLE: Thermosettable coating vehicles and coating compositions

INVENTOR(S): Zimmerman, Robert L.; Bailey, Herbert R.

PATENT ASSIGNEE(S): Dow Chemical Co.

SOURCE: Brit., 14 pp.

CODEN: BRXXAA

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1141859		19690205	GB	19670627

AB Liquid coating vehicles having increased shelf life were prepared by treating an alkanolamine with a polyepoxide resin (I) and mixing the adduct with an acidic, water-insol., film-forming polymer containing a carboxylic acid (or) carboxylic anhydride in the presence of a volatile liquid. The alkanolamine may be ethanolamine, diethanolamine (II), isopropanolamine, diisopropylamine (III), or a mixture of these. I may be 3,4-epoxy-6-methylcyclohexylmethyl 3,4-epoxy-6-methylcyclohexanecarboxylate or the diglycidyl ether of 1,8-bis(hydroxyphenyl)-pentadecane (IV) or of 2,2-bis(hydroxyphenyl)propane (V). I may be obtained by treatment of an epihalohydrin with polybutylene glycol or by epoxidn. of a butadiene polymer or soybean oil. The volatile liquid may be xylene, MeCOEt, EtOAc, BuOH, PrOH, H₂O, or mixts. thereof. The acid polymer was formed from 65-97% styrene (VI) or substituted VI and 3-30% of an alkylene oxide monoether alc. partial ester of **maleic** acid or a partially esterified α,β -unsatd. dicarboxylic acid. Thus, 18.0 g. II was added to 10.0 g. V of epoxide equivalent weight 172-8, the mixture was warmed to 150°, where an exothermic reaction occurred, the mixture was cooled to 165° in 15 min., an addnl. 10 g. V was added, and the reaction mass was again cooled prior to addition of a 3rd 10-g. portion of V. The adduct (VII) of II and V was H₂O-soluble and retained its chemical stability when heated for several hrs. at 200°. To 100 g. of a low-mol.-weight styrene-**maleic** anhydride copolymer, was added 57 g. of a crude distillate of triethylene glycol mono-Bu ether containing a small amount of the higher ethylene glycol Bu ethers, the mixture was heated for 1 hr. at 200°, and the melt was blended with 300 g. H₂O and 20 g. concentrated NH₄OH to give an **aqueous** dispersion of a resinous copolymer (VIII) containing 49 weight % VI and 51 weight % 2-[2-(2-butoxyethoxy)-ethoxy]ethyl maleate. To 38 parts of a 60% **aqueous** solution of VII, was added 100 parts of a 30.7 weight % **aqueous** dispersion of VIII, the mixture was blended, 1.5 parts primer **pigment** paste (consisting of iron oxide 900, BaSO₄ 2100, polypropylene glycol 1200 15, dispersant 60, and H₂O 675 parts) was blended with each part of the resinous binder vehicle, the formulation was used to coat steel panels, air dried for 2 hrs., and cured for 0.5 hr. at 176.5°. The coating was sanded, topcoated

with a black melamine alkyd enamel, air dried for 30 min., and cured for 30 min. at 121°. The coating showed enamel holdout, gloss retention, primer and intercoat adhesion, flexibility, front and reverse impact, water resistance, and salt-spray resistance similar to a control coating, but the coating was stable on storage for 4 weeks at 24°, while the control, containing V curing agent, solidified during storage. A coating was also prepared from a vinyl acetate-isooctyl maleate copolymer and an adduct of III and IV. The coating compns. were also suitable for Al, brass, tin, Cu, glass, stone, concrete, and cement.

IT 26873-65-4, uses and miscellaneous

RL: USES (Uses)

(coatings of epoxy resins and)

RN 26873-65-4 CAPLUS

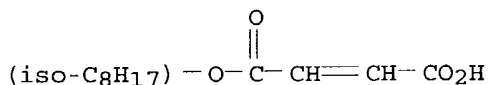
CN Maleic acid, monoisooctyl ester, polymer with vinyl acetate (8CI) (CA INDEX NAME)

CM 1

CRN 30137-97-4

CMF C12 H20 O4

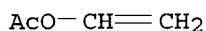
CCI IDS



CM 2

CRN 108-05-4

CMF C4 H6 O2



IC C08G

CC 42 (Coatings, Inks, and Related Products)

ST thermosetting coating compns; coating compns thermosetting

IT Soybean oil

RL: USES (Uses)

(epoxidized, coatings of alkyd resins and)

IT Coating materials

(epoxy-modified vinyl copolymers)

IT Maleic anhydride, polymer with styrene, triethylene glycol derivative-modified

RL: USES (Uses)

(coatings of epoxy resins and)

IT 26873-65-4, uses and miscellaneous 26873-66-5, uses and miscellaneous

RL: USES (Uses)

(coatings of epoxy resins and)

IT 28680-87-7 28680-88-8

RL: USES (Uses)
 (coatings of modified **maleic** anhydride-styrene polymers and)
 IT 9003-17-2, uses and miscellaneous
 RL: USES (Uses)
 (epoxidized, coatings of alkyd resins and)

L59 ANSWER 46 OF 46 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1968:41082 CAPLUS
 DOCUMENT NUMBER: 68:41082
 TITLE: Coating compositions from polycarboxylic polymers and
 a polyepoxide-alkanolamine adduct
 INVENTOR(S): Zimmerman, Robert Lane; Bailey, Herbert R.
 PATENT ASSIGNEE(S): Dow Chemical Co.
 SOURCE: U.S., 10 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3331886		19670718	US	19630128

AB The title compns. are thermosetting formulations with a long shelf life and good oven stability and are prepared for use as baked coatings. Thus, 18.0 g. diethanolamine and 10.0 g. 4,4'-isopropylidenediphenol diglycidyl ether (I) (epoxide equivalent weight 172-8) were heated to 150°C., at which temperature an exothermic reaction occurred. After the mixture had cooled to 165°C., a second portion of 10.0 g. I was added, and the mixture was again allowed to cool before the final third portion of 10.0 g. I was added. The obtained adduct (II) was a hard, clear, straw-colored resin, soluble in water and stable when heated at 200°C. for several hrs. In a sep. operation, 57 g. of a crude distillate of triethylene glycol monobutyl ether was added to 100 g. of a low-mol.-weight styrene-**maleic** anhydride copolymer. The mixture was heated to 200°C., maintained at this temperature for 1 hr., and mixed in a Waring Blendor with 300 g. water and 20 g. concentrated NH4OH to yield a clear viscous dispersion (III). A resinous binder vehicle was prepared from 60% **aqueous** II 38, III 100, nonylphenoxypoly(oxyethylene)ethanol wax (Igepal CO 990) 2.75, nonylphenoxypoly(oxyethylene)ethanol liquid (Igepal CO 210) 0.75, and water 97 parts. This composition was formulated into a primer using 1 part binder to 1.5 parts **pigment** paste containing Red Iron Oxide 2060F 900, BaSO4 (Barytes W1430) 2100, polypropylene glycol (average mol. weight 1200) 15, 25% solids Tamol 731 60, and water 675 parts. The obtained primer (IV) had a Number 4 Ford Cup viscosity of 33 sec. A control primer (V) was similarly prepared by using I instead of II. The 2 primers were drawdown coated on bonderized steel panels, air dried for 2 hrs. at room temperature, cured 30 min. at 350°F., wet sanded, topocated with a black melamine alkyd enamel, air dried 30 min. at room temperature, and cured

30 min. at 250°F. After 4 days conditioning at room temperature, IV and V showed equally satisfactory performance with respect to enamel holdout, adhesion, impact resistance, and water and salt spray resistance. However, V solidified after 4 weeks storage at 75°F. while IV

remained fluid and usable after the same storage. The compns. can also be used as solns. in organic solvents, such as xylene, MeCOEt, EtOAc, BuOH, PrOH, or their blends. Ethanolamine, isopropanolamine, and diisopropanolamine are also claimed for use in the adducts with the polyglycidyl ethers of polymers of 1,8-bis(hydroxyphenyl)pentadecane, epoxidized soybean oil, 3,4-epoxy-6-methylcyclohexylmethyl 3,4-epoxy-6-methylcyclohexanecarboxylate, and with polyglycidyl ethers from epoxidized polybutadiene and of polybutylene glycol. Other monomers claimed for use in the copolymer component are acrylonitrile, methacrylonitrile, vinyl chloride, vinylidene chloride, isooctyl acid maleate, vinyl acetate, Bu acrylate, acrylic acid, butadiene, stearic acid, adipic acid, lauric acid, phthalic anhydride, and glycerol. The coatings are especially useful for structural metal articles, such as

automobile

bodies, domestic and industrial appliances, metal furniture, and cabinets or housings for heating and air conditioning units.

IT 26873-65-4, uses and miscellaneous

RL: USES (Uses)

(coatings of epoxy resins and, on steel, impact- and salt water-resistant)

RN 26873-65-4 CAPLUS

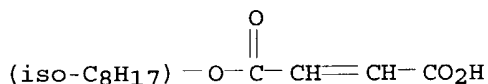
CN Maleic acid, monoisooctyl ester, polymer with vinyl acetate (8CI) (CA INDEX NAME)

CM 1

CRN 30137-97-4

CMF C12 H20 O4

CCI IDS



CM 2

CRN 108-05-4

CMF C4 H6 O2



NCL 260835000

CC 42 (Coatings, Inks, and Related Products)

ST EPOXY RESINS; **MALEIC** ANHYDRIDE RESINS; ALKANOLAMINE POLYEPOXIDE ADDUCT; METAL COATING RESINS; STYRENE RESINS; PRIMERS FOR METAL; POLYEPOXIDE ALKANOLAMINE ADDUCT; CARBOXY POLYMERS; RESINS METAL COATING

IT Coating materials

(epoxy resin-vinyl compound polymer, impact-resistant, salt spray-resistant)

IT 9011-13-6, uses and miscellaneous 25085-39-6, uses and miscellaneous

26873-65-4, uses and miscellaneous 26873-66-5, uses and
miscellaneous

RL: USES (Uses)

(coatings of epoxy resins and, on steel, impact- and salt
water-resistant)

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